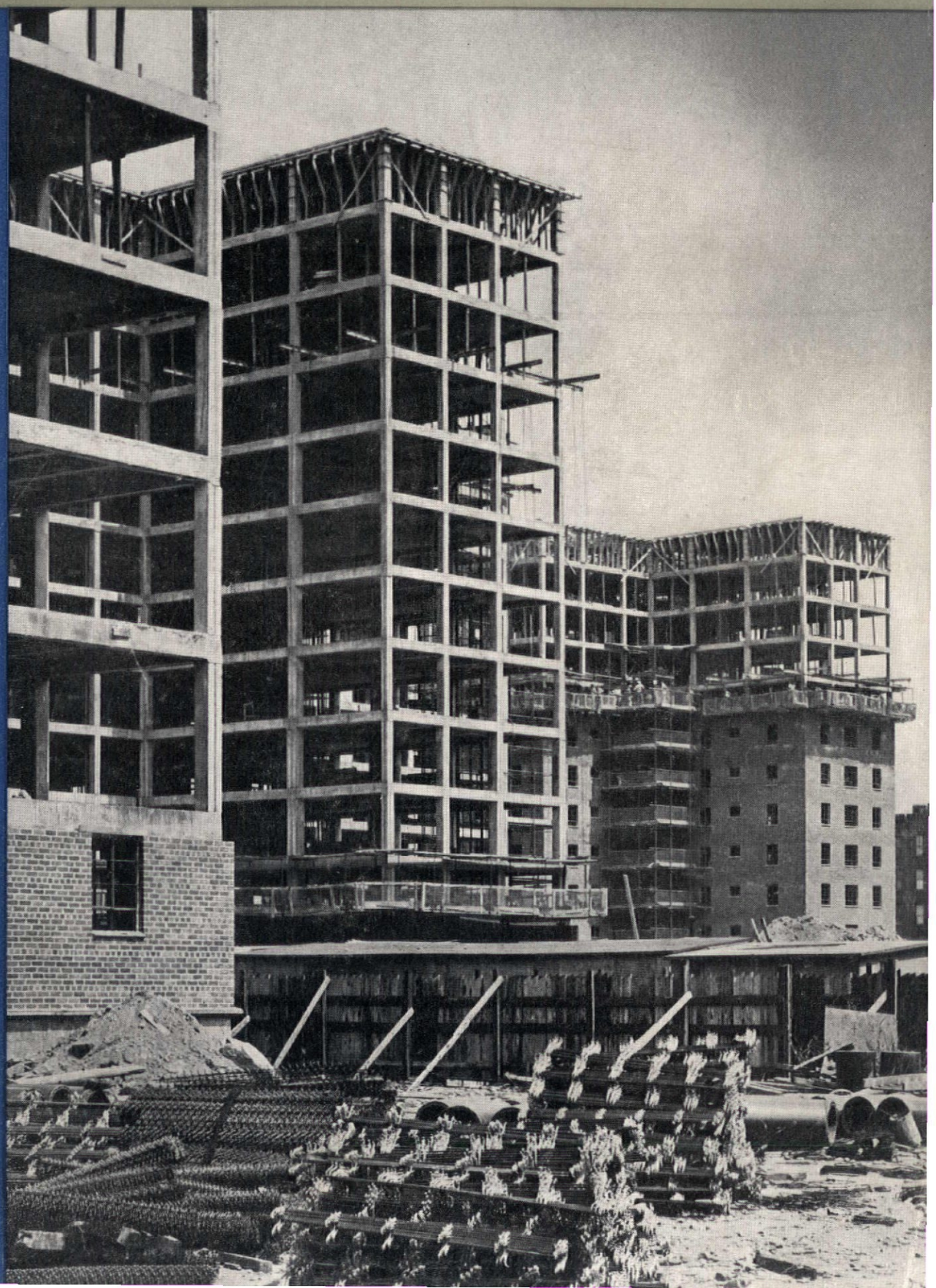
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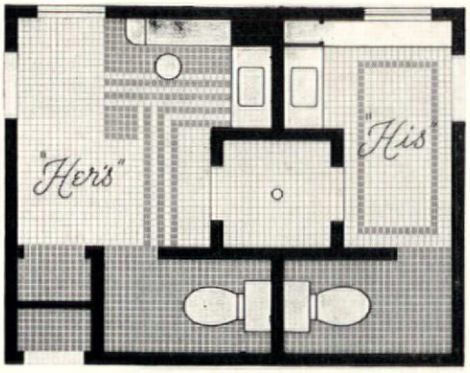
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October 1947

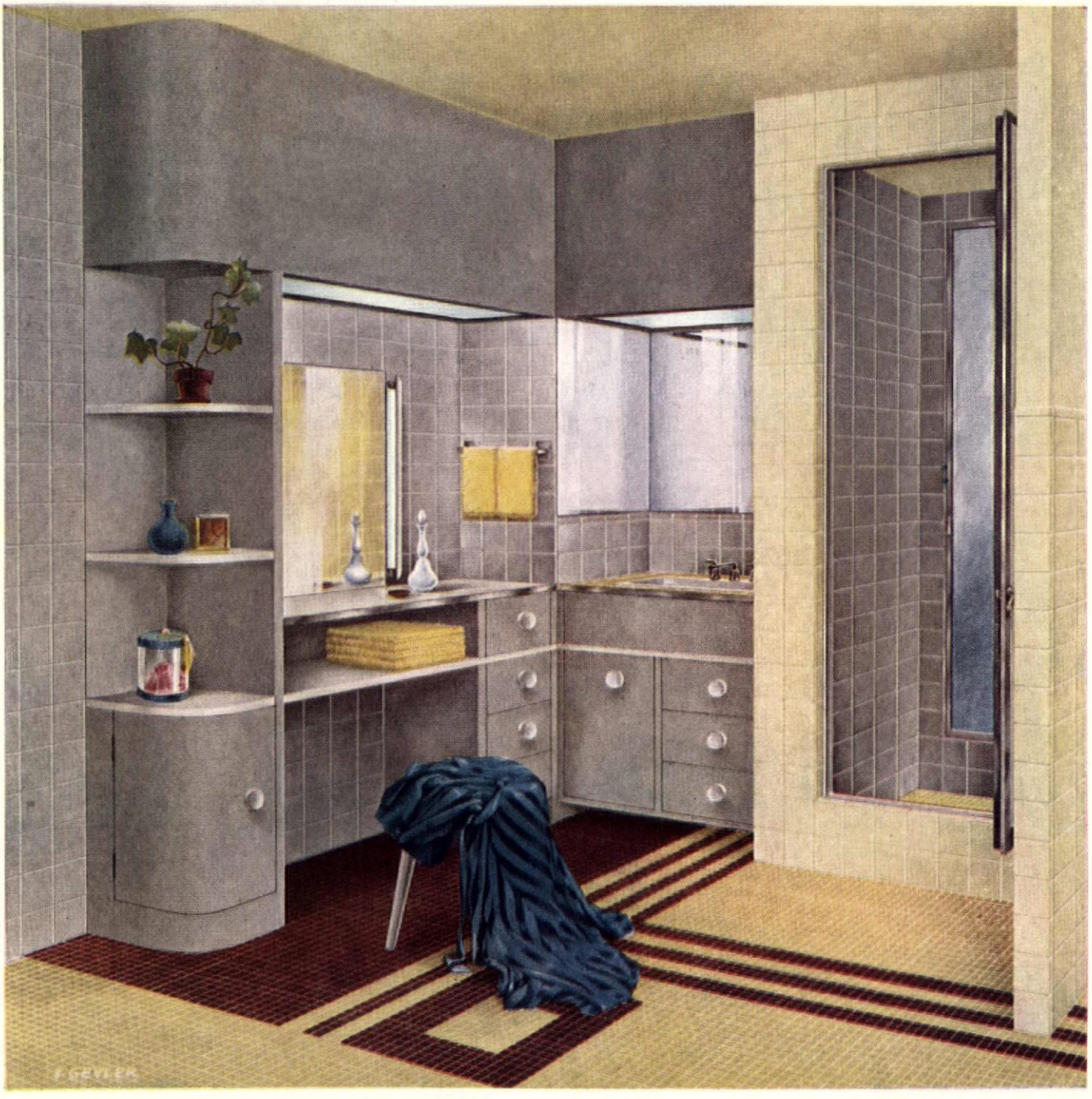
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How REAL RADIANT HEATING improves comfort conditions and lowers heating costs



15 East 91st St., New York City. Leonard Schultze & Associates, Architects. Slocum & Fuller, Consulting Engineers. 15 East 91st St. Corporation, a subsidiary of City Investing Co., Owners. Radiant Heating by J. L. Murphy, Inc., with technical advice and supervision by Richard Crittall Radiant Heating, Inc.

A few words on the true nature of *real* radiant heating and why it might pay you to get in touch with RICHARD CRITTALL RADIANT HEATING, INC., the organization which has been designing and installing *real* radiant heating systems throughout the world for 40 years.

REAL radiant heating warms the *occupants* and *contents* of a room *without* first having to heat the *air* to a high temperature. With Crittall Radiant Heating, this healthful and economical condition is achieved by circulating warm water at only 90° to 120° F. through concealed coils imbedded in ceilings, walls, or floors in accordance with the individual needs of each room. The same radiating system can be used for radiant cooling.

Be sure you're getting* real *radiant heating

Many installations of so-called radiant heating in this country fall short of delivering the maximum benefits that *real* radiant heating accords its owners. There are countless miles of floor-imbedded hot water pipe that should have been placed in ceilings. Many installations are giving property owners little more than old-fashioned, inefficient convection heating, whereby air must be overheated and circulated with all its disadvantages of high fuel cost, discomfort, and poor health conditions.

It takes a lot of experience to know just where to place radiant coils in each structure—when to use single or dual circulation systems and how to install a system for maximum comfort, healthfulness, and greatest possible savings in both initial cost and operating cost. Crittall knows how.

Crittall gives you* real *radiant heating

The use of concealed coils to provide *real* radiant heat was pioneered and patented by Crittall 40 years ago. Originally designed to eliminate unsightly exposed pipes, radiators, grilles, or registers, it was quickly recognized as an exceptionally successful method of providing healthful comfort at low operating cost.

Albert B. Ashforth, Inc., agents for the 15 East 91st Street Apartments shown above (and another Crittall Radiant Heated Apartment at 47 East 87th Street), have prepared an interesting little booklet that explains the benefits of *real* radiant heating to prospective tenants. We shall be glad to send you a copy. It may help you to see, from the occupants' viewpoint, why Crittall Radiant Heating has proved in hundreds of cases to be especially well suited to multi-story structures, such as apartment houses, hotels, hospitals, office buildings, schools, and institutions. Ask for the "tenant" booklet on radiant heating.

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8. Same Coils Cool in Summer
9. Costs Are Competitive

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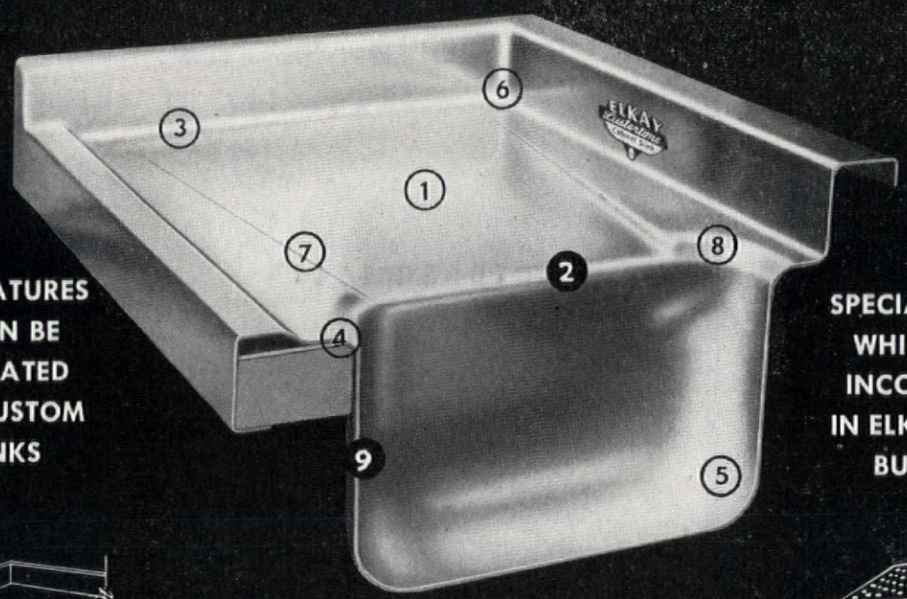
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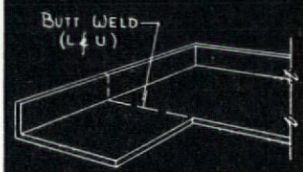
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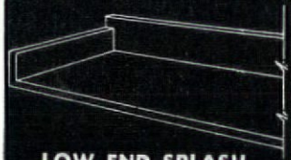
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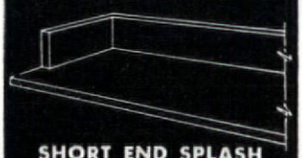
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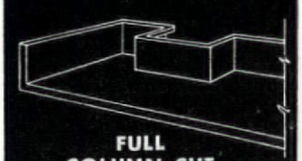
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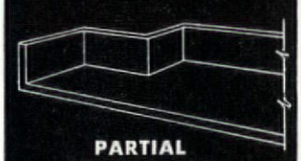
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FULL WINDOW NOTCH



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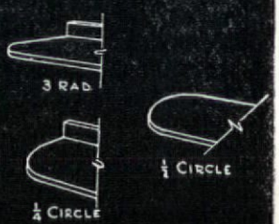


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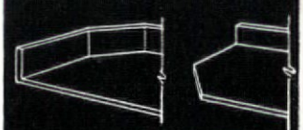
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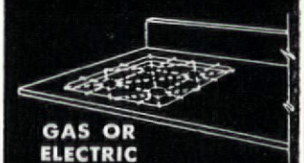
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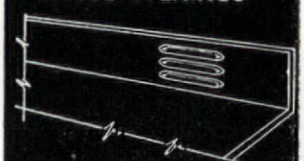
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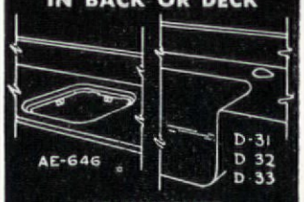
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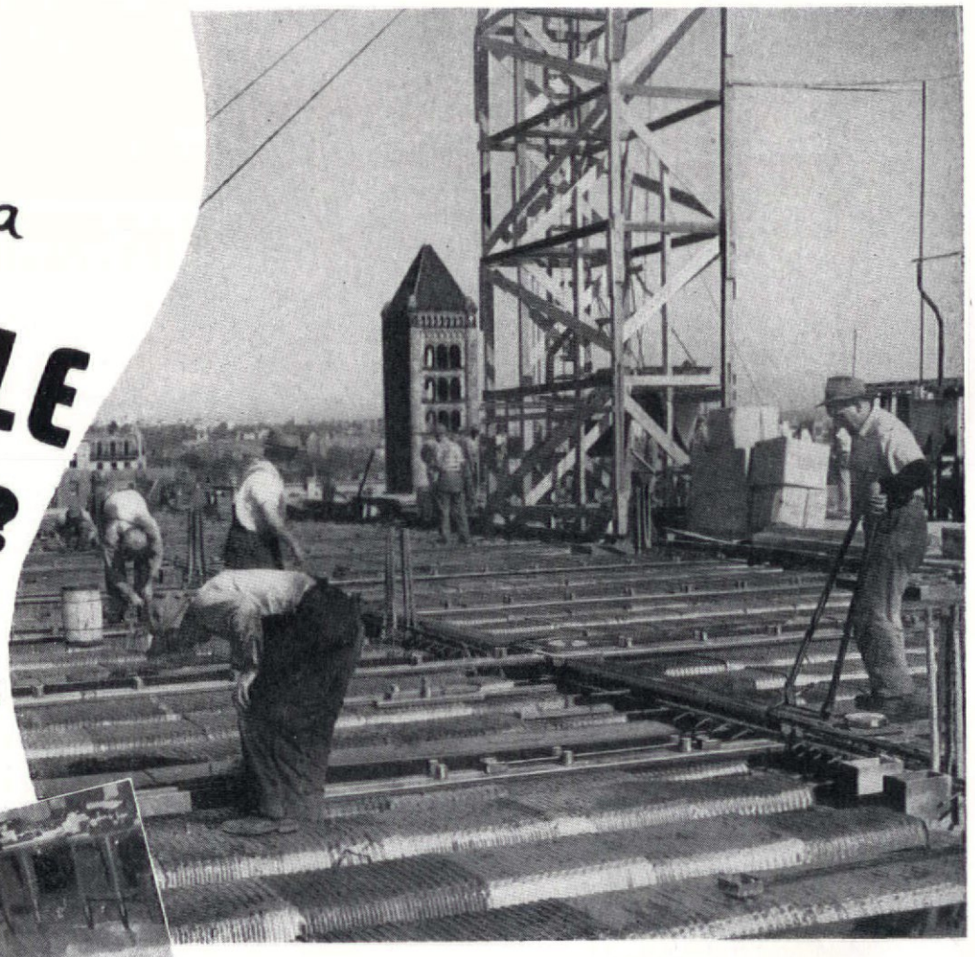
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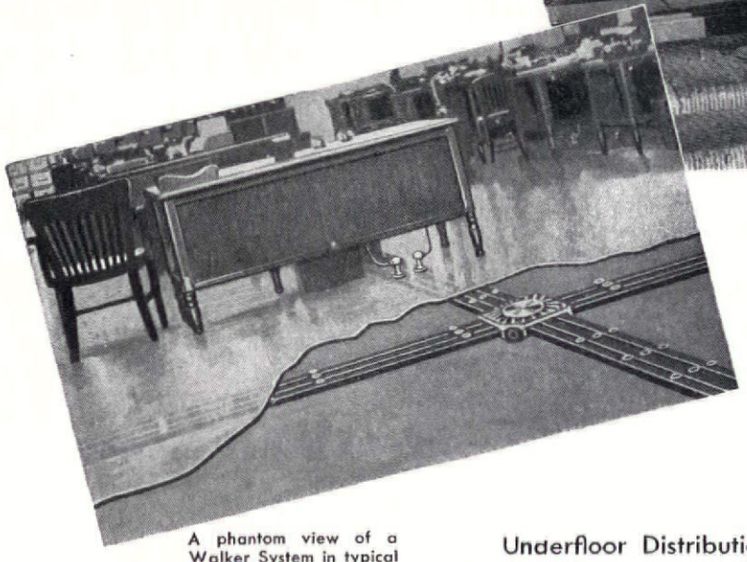
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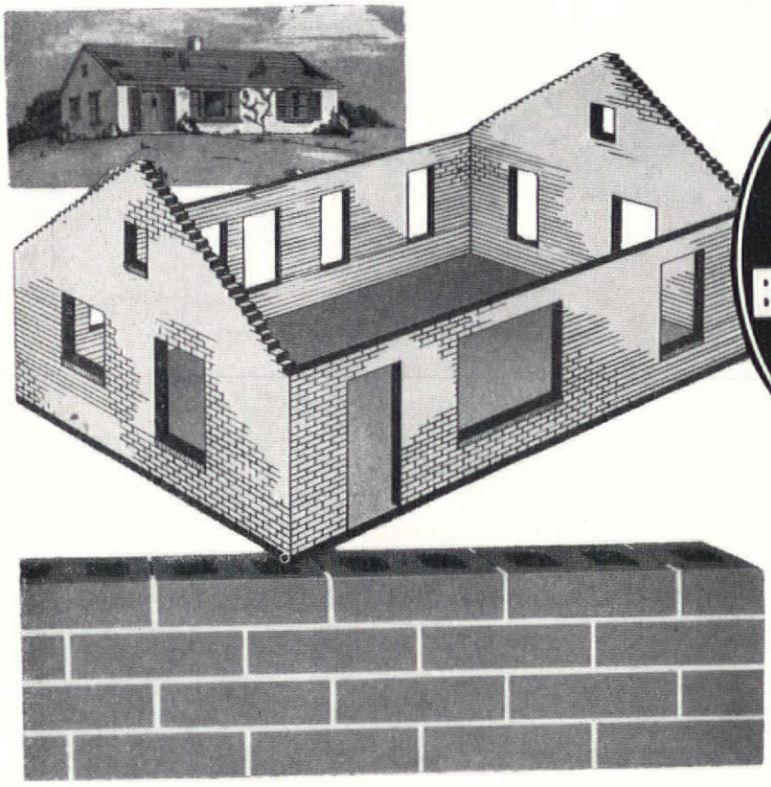
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BUILDING MONTH. In Philadelphia last month, according to an energetic reporter on the *Bulletin*, a little old lady with a shopping bag blinked at a series of photographs, part of the city planning exhibit, which showed what deep inroads blight had already made in her part of town. "If only we had known," said the little old lady, "maybe we could have done something to stop it." Maybe the little old lady was more than the device of a hard-working reporter; maybe she was real, and maybe she would get even more so from now on. Certainly the people themselves were being encouraged, as never before, to know what was happening—and what could happen. The giant projection of the city plan over a whole floor of a Philadelphia department store was one sign of how things were going (New York and Toledo had earlier showed the possible city of tomorrow to the taxpayers in the same way.)

Another sign was the earnest committee of Congressmen, dragging out all of housebuilding's old dog-eared problems and making new headlines of them for the benefit of anybody interested. And it was now hard to find anybody who was *not* interested, for there was scarcely an American who had not in some way collided with the Great Housing Shortage, had a fight with his landlord, or raged in helpless fury at the endless trap of clotted traffic that living in cities now seems to add up to.

But the Building industry, although it sometimes pretended to be like the little old lady, could not honestly claim that it had not known. It was always telling itself, and last month was doing so as enthusiastically as ever. Long Island housebuilder Bill Levitt, for instance, appeared at the Producers' Council meeting in New York to take a sock at some of the old bogies. Said Levitt flatly: "The only real reason why the house manufacturer is on a primitive basis compared to every other manufacturer is the system of distribution of raw materials adopted by the companies largely represented in this room this morning."

In Chicago, hardware manufacturers were urged by New York architect Lessing W. Williams to "earnestly strive to reduce costs" not only in manufacture, but in every aspect of distribution and by standardization and simplification of lines.

All this—and much more—the industry had heard before. In fact, it had been harangued and exhorted so much, both by itself and by articulate representatives of its market, that its total reaction was a fine case of self-pity. President Walter W. McAllister at the United States Savings & Loan League's San Francisco meeting complained bitterly that housebuilding was being subjected to "political attack" despite a "tripling of production." He said he was very tired of the "continued clamor that home building isn't going fast enough."

There was some controversy last month as to just how fast housebuilding was going. The industry itself was convinced that it was having a boom and pointed to the 83,000 starts in August and to the fact that starts in September, contrary to some gloomy forecasts, were believed to have reached 74,000. Output for the year, BLS statisticians said, would now be easily over 800,000. But the sour old Chicago *Tribune* said that BLS simply couldn't count. The *Tribune* is convinced that this year's shelter output is "even smaller" than that of 1946, which was "miserably small." "In Chicago, where the bureau thinks that home building is getting along fine . . . current operations are about one-eighth of what they were in the big years of the 1920's."

Housebuilders were, however, considerably less impressed by the *Tribune's* private statistics than by none-too-cheerful news from the Department of Commerce: the July index of building materials production record "substantial" declines for the third consecutive month.

But there was good news, too. Steel producers promised that shipments for the coming year will be "one-third larger than last year." If lumber production was dropping, so also were lumber prices: the small operators who had cut for a quick profit during the war were quitting.

Here and there, Building was moving in the big, bold ways in which it felt at home. New Yorkers were told that plans to link two more boroughs by a suspension bridge —"longest in the world"—were now a reality. Rio, choking with traffic bottlenecks, briskly set out to end them by demolishing a hill in the center of town. If some of the industrialized houses had fallen into the dust-bin, Harmon Homes were already mushrooming in big developments in Philadelphia, Washington, Wilmington, Milwaukee.

WASHINGTON

ROUND TABLE

Congressmen fire questions, give no time for stalling on answers.

When the Republicans finally climb down from their uncomfortable political fence to adopt a housing policy and write substitute legislation for the still-born Taft-Ellender-Wagner bill, they will turn to the Joint Congressional Committee on Housing.

Because this 14-man committee is due to sound the Republican housing pitch and to write a new housing bill, it is being carefully directed off-stage by House Republican leaders—Speaker Martin, Majority Leader Halleck and Chairman Wolcott of the House Banking Committee. Their decisions as to general housing policy will guide not only Committee Chairman Ralph A. Gamble, a "good party man." They will also check-reign Vice Chairman Joseph R. McCarthy, the new Republican Senator from Wisconsin, who has been making headlines by probing housing sore spots. Vice Chairman McCarthy will be allowed to keep the spotlight. But, behind the scenes, the conservative House Republican

Graphic Craftsman, Inc.



PROBING CONGRESSMEN ask architects and engineers to talk about what's holding up housebuilding. Around the table (l. to r.): Harry M. Brown, J. E. Grawler Co., Baltimore; E. B. Whitman, Requardt & Associates, Baltimore; Max Foley, Voorhees, Walker, Foley & Smith, New York; Victor Able, architect, Philadelphia; Louis Justement, chairman, urban planning committee, A.I.A.; Edmund Purves, Washington representative, A.I.A.; Committee Chairman Gamble; Committee Vice-chairman McCarthy.

leaders—who last session killed the W-E-T bill—will really run the show.

Close-Range Firing. Because of this political backdrop, the housing probe is not expected to produce a bill that will mean very much—unless McCarthy should be carried away by his part in the act. It may, however, contribute to the solution of the Great Housing Problem simply by exposing to public scrutiny the facts which make the problem. It may also set a new pattern for congressional investigations. Instead of listening to verbose defensive statements carefully prepared by industry spokesmen, the housing committee is holding "round table conferences" and at close range is firing pointed questions which the invited experts cannot duck.

The first such conference was attended by the heads of all government housing agencies, except PHA's Dillon Myer, who will be invited to a special conference on public housing. Four questions dominated the discussion:

- Are there too many mark-ups in the price of building materials, and should government limit the profits of the middlemen? Housing Expediter Creedon thought that it was too late to alter Buildings' aged distribution pattern.
- Would it be feasible to devise a federal building code and withhold federal construction grants from localities which refuse to conform? Observers felt that pressure from local governments would prevent the enactment of a federal code with teeth sharp enough to produce the desired results.
- Are there enough materials? Answering his own question, Prober McCarthy warned that "Congress may have to resort to some kind of allocations."
- What about the discrepancy between FHA and VA appraisal policies? FHA's Kurt Mack pointed out that his agency was trying to estimate "stabilized values," while a VA representative explained that his agency used "replacement cost" as its guide. McCarthy concluded that it did not make sense to him or to the veteran to have two government agencies doing the same job come up with different results.

Unlink Low-Cost Housing. Other sore spots were unbandaged at a second conference, at which leading architects and engineers (see photo, above) made these recommendations in answer to McCarthy's questions: 1) Federal housing agencies should get together and devise uniform building standards. 2) Industry should somehow be induced to adopt modular coordination, an economy measure estimated to save as much as 5 per cent on the cost of an average house. 3) Low cost housing and slum clearance should not be inseparably linked—particularly during the current housing shortage.

To McCarthy's query "What can the architects and engineers do about prices?", famed Washington architect Louis Justement replied "very little" and offered the simple reason that practically all small houses are built without benefit of professional advice. An experienced designer of low cost housing and chairman of the AIA Committee on Urban Land Planning, architect Justement did, however, have a plan for stimulating house building.

Absorb the Cost Drop. Noting that builders, investors, buyers and even FHA are reluctant to undertake housebuilding for fear of a future drop in values, he proposed that the government agree to absorb any prospective losses due to a future drop in building costs and property values. Applying to moderately priced houses and apartment projects built prior to Jan. 1, 1950, the program would eliminate all risk from new housing developments and would undoubtedly unleash a housing boom. Such a program would cost the government nothing if there were no drop in construction costs (as measured by a federal index) between the time a mortgage was recorded and December 31, 1953, the date suggested for the program's termination. If, however, there were a cost drop during this period, government would have to pay cash to the mortgagees equal to the depreciated value of the mortgages, as measured by the decline in the federal cost index. This payment would be used to reduce the principal amount of the mortgages, thereby protecting mortgagees and benefiting equity owners through a reduction in their monthly mortgage payments.

Against the possible cost of the proposed program must be weighed the probability that in a declining market government would have to make good on the default of many FHA-insured mortgages. Justement rightly contends that FHA's success to date stems mainly from the fact that it has been riding a rising market; he doubts that FHA reserves could stand a general decline in values. By what magic he selected Dec. 31, 1953 as the program's payoff and what would happen after that date, Justement did not say. Prober McCarthy was carefully noncommittal: "It certainly is controversial". The assembled engineers were far from enthusiastic, and the architects made it clear that Justement spoke only for an AIA committee—not for the AIA itself.

Congressmen's Homework. Although the housing investigators have not yet drawn up an agenda, the gist of future round table conferences may be surmised from the subjects which Chairman Gamble has assigned his colleagues as home work: taxation and real estate, costs and cost reduction, capital supply and financing, materials distribution, housing for disabled veterans, rural housing, multi-unit housing, slum clearance, effect of existing legislation on the shortage and high cost of housing, effect of purchasing pressure on housing and, lastly, organization of the enterprise unit in housing.

While McCarthy's first two round table conferences were bathed in the spotlight of publicity, his most productive work to date has gone almost unnoticed. Behind closed doors last month he met with Housing Expediter Creedon and top officials of the War Assets Administration and Republic Steel Corp. to arbitrate a dispute over who should pay the cost of repairing a Gadsden, Ala. pig iron plant which Republic rents from WAA. The dispute began July 17 when the plant broke down; meanwhile, the supply of pig iron for cast iron soil pipe production has been halved. Where government officials failed (Creedon had unsuccessfully sought White House intercession), McCarthy succeeded. Repair of the Gadsen plant is underway.

ST. LOUIS COMPETITION



MEMORIAL COMPETITION judges viewed 172 entries, displayed in Old Courthouse Building. Airview below shows 80-acre downtown site, already cleared, awaiting redevelopment.







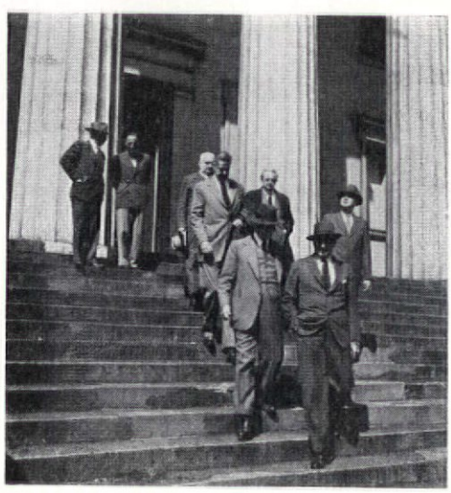
JUDGES received the press in the Mayor's office. From left: Charles Nagel, Jr., director, Brooklyn Museum; Fiske Kimball, director, Philadelphia Museum of Art; S. Herbert Hare, architect, Kansas City; William W. Wurster, dean, school of architecture, M.I.T.; Competition Director George Howe, architect, Philadelphia; Richard J. Neutra, Los Angeles, chairman, California State Planning Board; Louis LaBeaume, architect, St. Louis; Roland A. Wank, New York, consulting chief architect, TVA.

Photos: Joe Scherschel

Five architects last month ripped open Western Union envelopes, confronted a big job and the promise of $10,000 with which to do it. They—and their teammates—were winners in the first round of the Jefferson National Expansion Memorial Competition. Now they would have a year to expand and finalize their prize-winning schemes. One of them was destined to see his plan built as one of the biggest redevelopment projects of the decade: the competitors were planning a "living memorial" to cover 80 acres along the Mississippi river, in the heart of downtown St. Louis. The winner in this second and final round of the Jefferson Memorial Competition will get $40,000 and be recommended for employment in the execution of his design.

St. Louis will match dollars with the federal government to build this $30 million park and memorial project whose purpose will be "to instruct . . . to disseminate information . . . concerning the interests of humanity." The federal government acquired the land before the war at a cost of $9 million, and the vast site has already been cleared.

For three days Competition Director George Howe and the seven distinguished judges had trudged up the steps of St. Louis' Old Courthouse Building. They had paced several miles of drawings, compared 172 entries. By the end of the third day, only five schemes were left. Then the judges shook hands all around, sent off telegrams to the winning five—but decided (for reasons they did not make clear) not to tell anybody the names of the winners. By month's end, architects all over the U. S. were buzzing with the five names. Nobody but the judges knew all of them, but almost everybody knew at least one of them. It seemed only a matter of time before informed circles in St. Louis, Brooklyn, Bloomfield Hills, Urbana and Cleveland would get together.



BUILDING MONEY

VA CRACKDOWN

Stiff penalties will apply to appraisers, lenders, housebuilders.

Driven to action by the daily flood of complaints from GI house buyers who have been stuck with lemons, the Veterans Administration last month cracked down on appraisers, lenders and builders. Although jerry-builders are basically at fault, VA blamed appraisers and lenders for inadequate inspection during and after construction. Such inspections would certainly eliminate the most common GI complaints: violation of the plans and specifications on which their purchase contracts are based, poor quality workmanship and materials, deficient heating systems, unfinished landscaping and wet basements.

To discourage shoddy building and superficial, inadequate inspections, VA threatened each group of culprits: 1) appraisers may be dropped from VA's approved list; 2) lenders may be suspended from further participation in the program; 3) builders may suffer a reduction in the valuation of subsequent houses in anticipation of poor performance.

Warning that veterans "must be protected from unscrupulous or inefficient builders" the VA bulletin went to all its field officers, participating lending institutions and, via the press, to all builders. Newspaper headlines focused attention on the jerry-building aspects of VA's accusations and put the National Assn. of Home Builders on the defensive. Assuming a holier-than-thou attitude, NAHB retorted: "The impression created (by the press) was an unfortunate one, although the (VA) bulletin made perfectly clear that it was the responsibility of the VA's own appraisers and lending institutions to avoid the things condemned."

Meanwhile, in Baltimore, VA made more "unfortunate" headlines by suspending approval of GI loans on houses built by two of the city's bigger builders because they failed to meet specifications. The builders were also told to refund $342 to each of 90 veterans for alleged deficiencies in their houses or to stand criminal charges in the U. S. District Court. Apparently, VA is fighting jerry-building with more than bulletins.

DESIGN

GIANT SHOW

Architect Stonorov makes city plan come alive for taxpayers.

Outside its small ring of experts, city planning is often counted a dull subject. But in Philadelphia last month people were talking city planning the way New Yorkers were talking baseball. The reason: Philadelphians by the thousands were filing through a gigantic presentation of the city plan spread out over a whole floor of Gimbels department store. Designed by architect Oscar Stonorov, this $400,000 show uses models, mobiles, movies, sound and a dozen other tricks to make the city plan come alive for the hundreds of thousands of people it most concerns.

Every year since its creation in 1942 Philadelphia's City Planning Commission has prepared for the City Council a six-year program of civic improvements. Each year the elaborate report circulated among city officials, but never filtered down to the people in terms they could understand. Several years ago it occurred to the Citizens Council on City Planning that something had to be done to sell the city plan to the people who would pay for it. Planning officials, Council members and architect Stonorov went to work on the show which opened last month. The city paid one-third of the bills, the rest were paid by contributions from individuals and from mercantile, financial and industrial corporations.

The show's main props are carefully scaled models which show Philadelphia as it was, is and will be—and a recorded commentary which tells the taxpaying plain citizen exactly what the city plan means to him. Models of the future spot the Planning Commission's $302 million works program for 1947-52. Planning goals for metropolitan Philadelphia are projected even farther: 28 new airports by 1955; 620,000 new dwelling units and 28 sq. miles of new industrial areas by 1980; ultimately, a playground within one-quarter mile of every home.



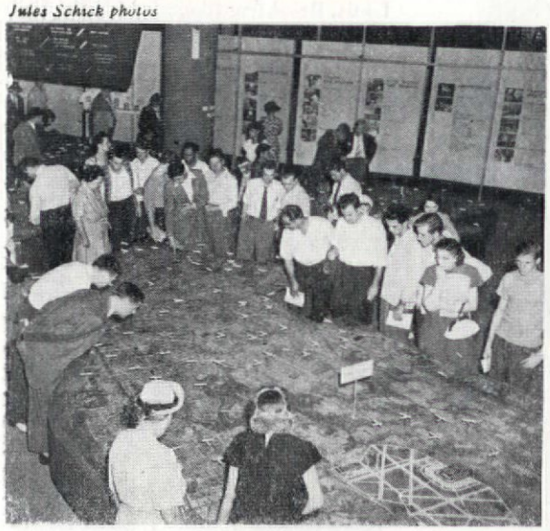
STONOROV

Publicity about the exhibit has been on a scale matching its scope and size—the biggest of its kind ever staged. During the four months before the September opening, public interest in the show was drummed up by 300 columns of newspaper copy, more than 300 newspaper photos, some $60,000 worth of free commercials on the nine local radio stations, frequent television coverage, six news reel releases, marquise lights on two local theaters, and posters all over town. As a result, attendance has been running from 10,000 to 16,000 per day.

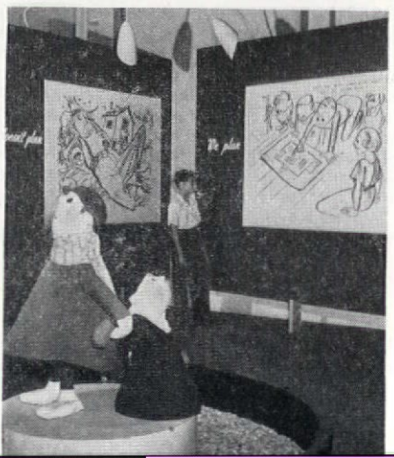
Visitors are charged no admission but are asked to fill out a questionnaire at the end of the trip through tomorrow's Philadelphia. So far, these ballots show how well the show is paying off: 80 per cent of all visitors have volunteered their time and effort to accomplish specific civic improvements; 60 per cent have declared their willingness "to pay a little more each year in taxes" to get things done.

Not everybody who came was convinced that the city plan could happen. (Comments: "a blessing if it were ever to take place" . . . "a pipe dream"). But Chairman Edward Hopkinson, Jr. of the City Planning Commission had made it clear at the show's opening that Philadelphia's six-year program "is not just talk; it is action", and had pointed to the extension of the Market Street Subway and the widening of Vine Street, both started the week before. More important, thanks to the big show and the flood of publicity which introduced it, every Philadelphian knew what Planner Hopkinson was talking about.

Jules Schick photos







PHILADELPHIANS see six years' improvements spotted on aerial map (above). Looking at redevelopment model (upper right) are: Mayor Bernard Samuel, Governor James H. Duff, Gimbels' Arthur C. Kaufmann. Osborn cartoons conjugated verb "To Plan."

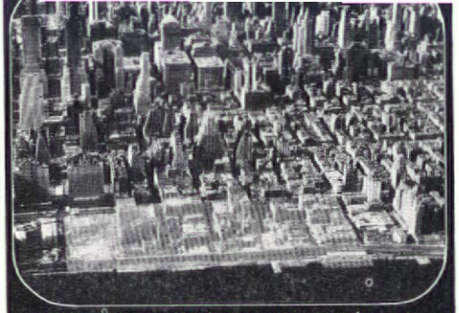
UNITED NATIONS: AGREEMENT!

Delegates applaud Headquarters plan, view it as model, in movies.

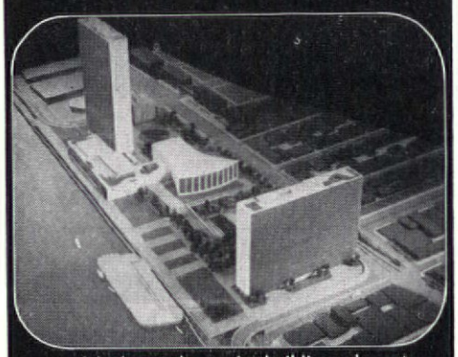
Last month the United Nations was in agreement on at least one thing: the plan for its Permanent Headquarters presented by Design Board chief Wallace Harrison. When the General Assembly gathered for its opening session in Flushing Meadows, Harrison was on hand with what is probably the most comprehensive and painstaking presentation of an architectural plan ever prepared. To make up their minds about the Headquarters plan, delegates could refer to a 96-page report, illustrated with plans, diagrams and charts; a scale model 12 ft. long; a movie in colors, complete with stirring music and commentary. Harrison stayed all day to answer questions as delegates peered at the model, viewed the 10-minute movie. He heard little but praise. Only Britain's delegate, Sir Andrew Cadogan, said doubtfully that he had hoped for something "with a stronger sense of unity."

The first visualization of the Headquarters plan showed the double wall of glass, hung on a delicate steel or aluminum frame, planned as the facade of all buildings. White or light-colored marble will be used for end walls. Harrison explained that the foot of space enclosed by the double window wall will provide for air circulation, permitting solar-heat to be drawn off in summer, exploited in winter. "Push-button temperature control" is, however, planned for individual offices, so that delegates from all latitudes may feel equally at home.

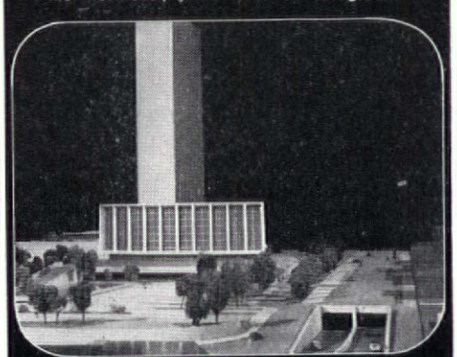
The movie, prepared by designer Oliver Lundquist, with the cooperation of David Zablodowsky, chief of UN's Visual Presentation Section, is notable as a new technique for interpreting a complex architectural plan to a large group of clients, few of whom can readily visualize blueprints. In this case, the movie was especially valuable for its graphic leap across language barriers (the official report is available in only three languages). The selected stills with commentary at the left show how the movie explained the function and relation of the various buildings. UN is making considerable use of graphic and movie presentations to supplement and dramatize the weighty text reports in which many a legislative body has bogged down.



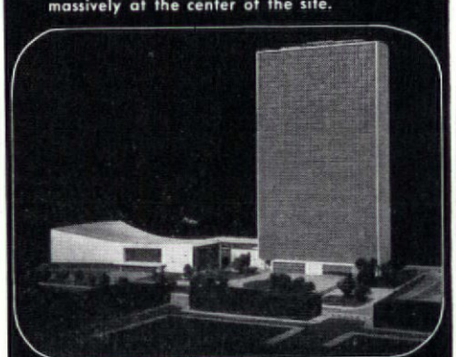
UN's midtown Manhattan site extends west from the East River shore to First Avenue and north and south between 42nd and 48th Streets for 1,500 ft.



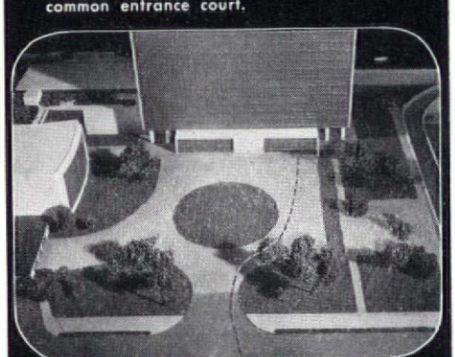
Model shows the main building elements (Conference, Secretariat, General Assembly, Special Agencies buildings) as seen from the northeast, with river in foreground.



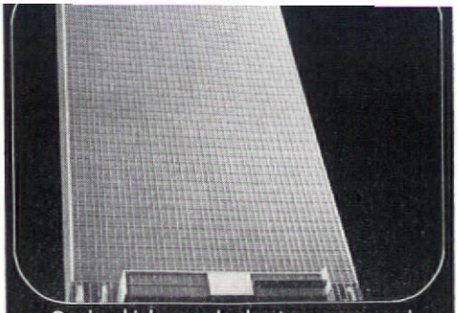
This is the first view of the visitor as he enters the main plaza. The scene is dominated by the General Assembly, standing massively at the center of the site.



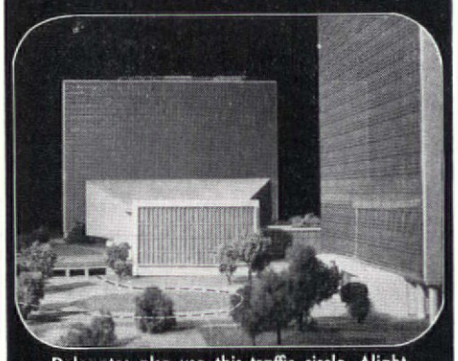
This is the view seen by those who approach the site on business . . . delegates, Secretariat personnel, press. It looks upon their common entrance court.



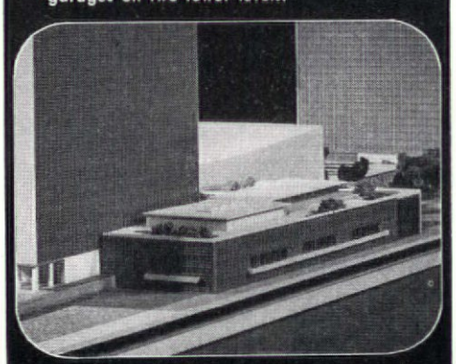
Secretariat and press enter from 42nd and 43rd Streets. Through this entrance they can pass through the narrow Secretariat lobby and into the Conference area beyond.



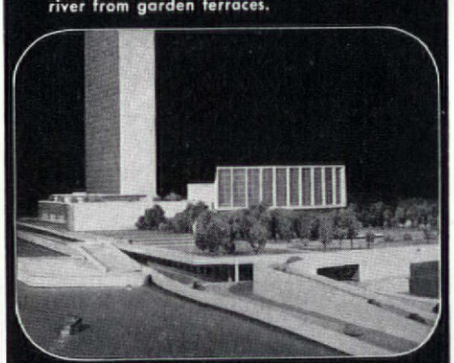
Or by high speed elevators, press and United Nations' personnel may go to their destinations among the 40 stories of the vertical Secretariat building.



Delegates also use this traffic circle. Alighting at special entrance in Assembly building, they may send cars down central ramp to garages on two lower levels.



Conference building extends over Roosevelt Drive. Long flat roof will provide both enclosed and outdoor restaurants, overlooking river from garden terraces.



New York City will collaborate in zoning, street development around site . . . such as diverting First Avenue traffic to underground tunnel . . . replanning Roosevelt Drive.



The United Nations Headquarters is a workshop . . . perhaps the most important in history . . . in which a United World will labor for peace and progress.

MOVIE STORY

Rita Hayworth coasts down sculptor Noguchi's spiral playground slide.

Not long ago sculptor Isamu Noguchi stared hard at a page in *Theater Arts* magazine. There, in a still from the forthcoming Columbia Picture, *Down to Earth*, was Rita Hayworth. But what interested Noguchi even more was the fact that Miss Hayworth seemed about to descend a spiral

(Continued on page 14)

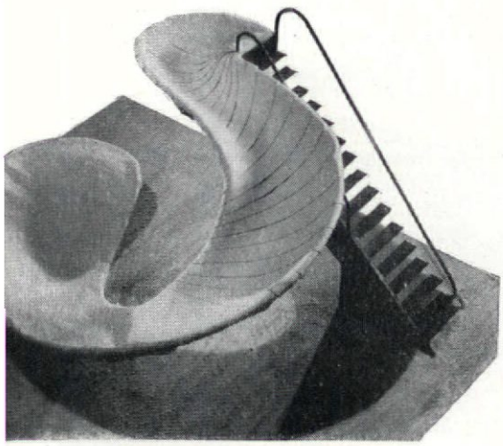
playground slide which he had designed and which had appeared in *The Architectural* FORUM's Design Decade issue of 1940. In the background of the playground scene was a multiple-length swing, also designed by Noguchi and published by the FORUM. (See cuts.)

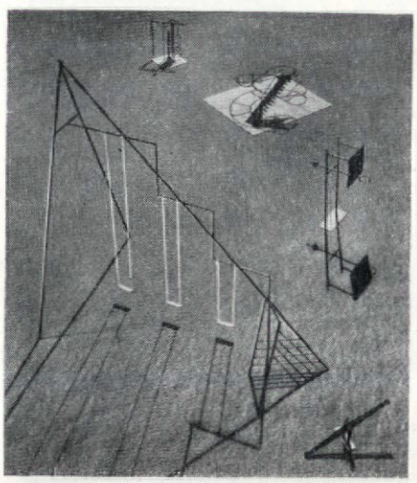
Noguchi was considerably more surprised than flattered by Columbia's interest in his playground equipment. He talked to his lawyers. They showed Columbia the photograph in *Theater Arts* and the Noguchi page from the 1940 FORUM.

Columbia immediately acknowledged that the equipment used in its set was "substantially identical" with Noguchi's models, said it had been unaware that the designs were cribbed, paid Noguchi damages and agreed to properly credit him in any future publicity given this scene.

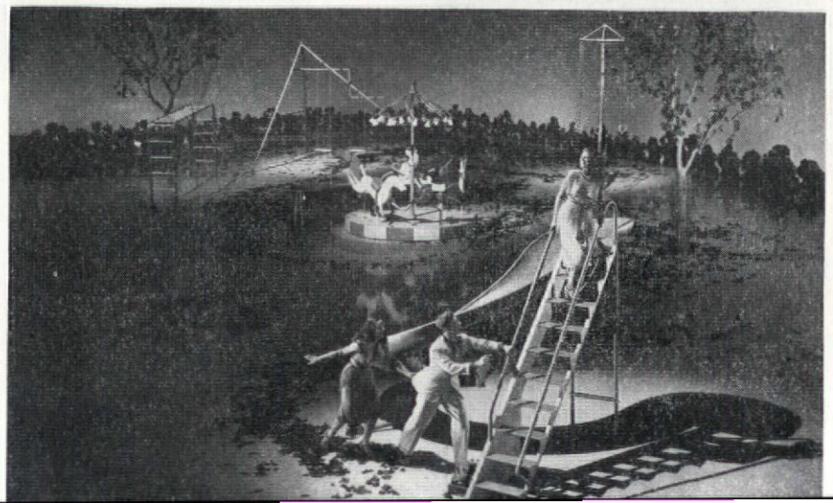
"What I wanted mainly," Noguchi said, "was credit and payment for my lawyers. My theory is that movie producers should go to the designers directly. The point is that I think the motion picture should be a source of income for all kinds of artists, not just for one select group."

FORUM publication of Noguchi's design was automatically copyrighted. But a copyright forbids only reproduction of a copyrighted photograph of a design or of copyrighted plans, not the physical production of the design itself. Architects, almost as plagued by design-piracy as creators in the frenetic fashion industry, have, however, the legal protection of an "unfair trade competition" charge. This means that no one has the right to claim credit for work done by another, and protects against plagiarism. In Noguchi's case, credit clearly had been given to others, and the case was easily settled out of court.





NOGUCHI MODELS (above and right) as they appeared in Forum's Design Decade issue and (below) as they appear in new Rita Hayworth movie.



PROFITS SPLIT

Small Connecticut housebuilder shows how not to have labor troubles.

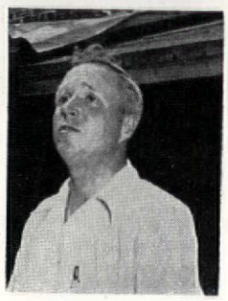
New Canaan, a green-lawned Connecticut town to which some 4,000 upper-bracket New Yorkers beat a nightly retreat, is only 15 miles from Manhattan by the Old Post Road. But it is poles apart in other important ways. It is, for instance, the kind of small town where, among the men who sell the commuters their steaks and aspirin tablets and houses, a business reputation is as immediately recognizable and as unalterable as a neighbor's face.

This is one reason why George Platts is still building with the crew of skilled tradesmen he organized back in 1936, while plenty of bigger housebuilders are scratching for labor. Platts is now at work on a 22-house development, in the $9,000-$12,000 price class. He has no union contract—but the men who work for him know that the boss has met his agreement with them, year after year, to the letter.

Platts' 40 employees split 25 per cent of the firm's profits. They get two weeks paid vacation and eight paid holidays a year.



BUILDER PLATTS splits profits with his employees, has kept skilled tradesmen like the mason (above) at work all year round for the last ten years.



A. George Fasano photos

They work the year round on every day when work is possible. Platts plans his work carefully so that there will be enough enclosed to keep the crew busy through bad weather, while the absence of union restrictions on the kind of work each tradesman may perform permits transfer of workmen to a variety of inside jobs.

The crew works a 6-day week. This, like many other conditions of work, was decided democratically at one of the crew's regular meetings. Platts tells it this way: "After the war the fellows came around and asked me—Are you going to work the same as before, all the year round? I said—Sure, that's the only way I know how to work. Then we had a meeting and I said—I've been reading in the papers about everyone wanting a 5-day week, now what do you want? They said—We want either a 5- or 6-day because if we don't work for you on Saturday we can work someplace else. I said—If you're going to work for anybody, you might as well work for me."

At such regular meetings, workers discuss any troubles that have come up on the job and decide what should be done by vote. Platts puts it to them this way: "I'm just here as manager. If someone isn't doing good work or is causing unrest, he's cutting down your profits. You know what he's doing better than I can."

Platts' work plan drew praise from Stephen Colosi, secretary of the Stamford A. F. of L. Central Labor Council: "A profit-sharing plan is a sure way to end contract squabbles and featherbedding. Platts' scheme comes as close as anybody ever has to a guaranteed annual wage in building. We've discussed the guaranteed annual wage at the Stamford-Greenwich forum on labor relations without getting anywhere. In good times, the workers themselves aren't interested in it; in bad times.

the builders can't pay. And only the very big builders are able to plan work so as to make the annual wage feasible while still retaining strict union craft divisions."

The success of Platts' work plan at least suggests a way which contractors and union tradesmen might take to reach an agreement covering larger operations. The building trades have dug their deep trenches of craft division to protect themselves against the speed-up of the building boom, the shutdown of building depression. If contractors could find a way to offer union labor profit-sharing incentives or a guaranteed annual wage, the unions might find it a good bargain to modify some of their traditional restrictions.

PREFABRICATION

INTERIM FINANCING

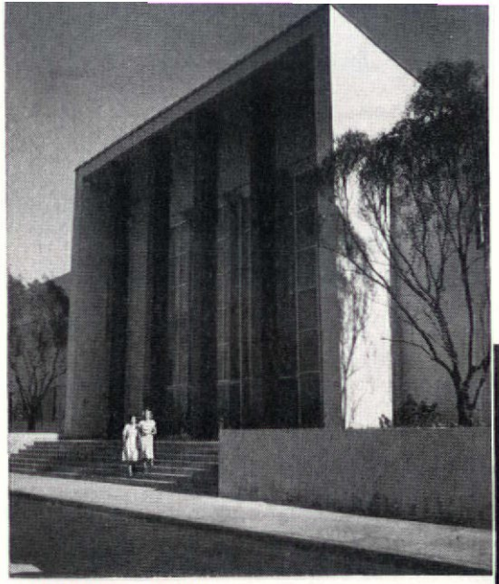
Another prefaber comes up with an answer to the industry's big problem.

Last year there were 289 names on the government's list of approved prefabricators. Today, the Prefabricated House Manufacturers' Institute estimates that only about 50 of these are active. Most of those who failed to get started or more than started were licked for lack of capital. Many more are about to throw in the towel for the same reason.

It takes big money to finance the factory production of houses. Equally important, it takes big money to carry a house during the period between its production and its erection on the site—the time when the dealer-erector normally gets the first advance under the construction loan. A prefabricator may avoid this problem by working with only well-heeled dealers—but they are hard to find. The alternative is for the prefabricator to extend the dealer a helping financial hand. This has been done on a grand scale by National Homes Corp., whose financial subsidiary extends credit to National's dealers and sets them up as its mortgage correspondents with a complete one-stop home financing service (FORUM, Aug. '47, p. 11). It has also been done by Adirondack Log Cabin Co. with the aid of its own revolving fund and the cooperation of local lending institutions.

The producer of panels for small colonial houses as well as prefab cabins for the back woods, Adirondack formerly required its dealers to make a 50 per cent cash payment with each order and to pay the balance against shipment of the house parts. Few dealers had the necessary cash; still fewer home buyers could afford to give it to them, even though Adirondack's prefab parts represent less than half of the total cost of house and lot. This interim financing problem was at the bottom of the company's sagging sales.

To bend the sales curve upward, President Harry Levey needed a new financing plan, and put Attorney Nathan H. Gates to work evolving one. Oiled by a big revolving fund (claimed to contain $500,000)

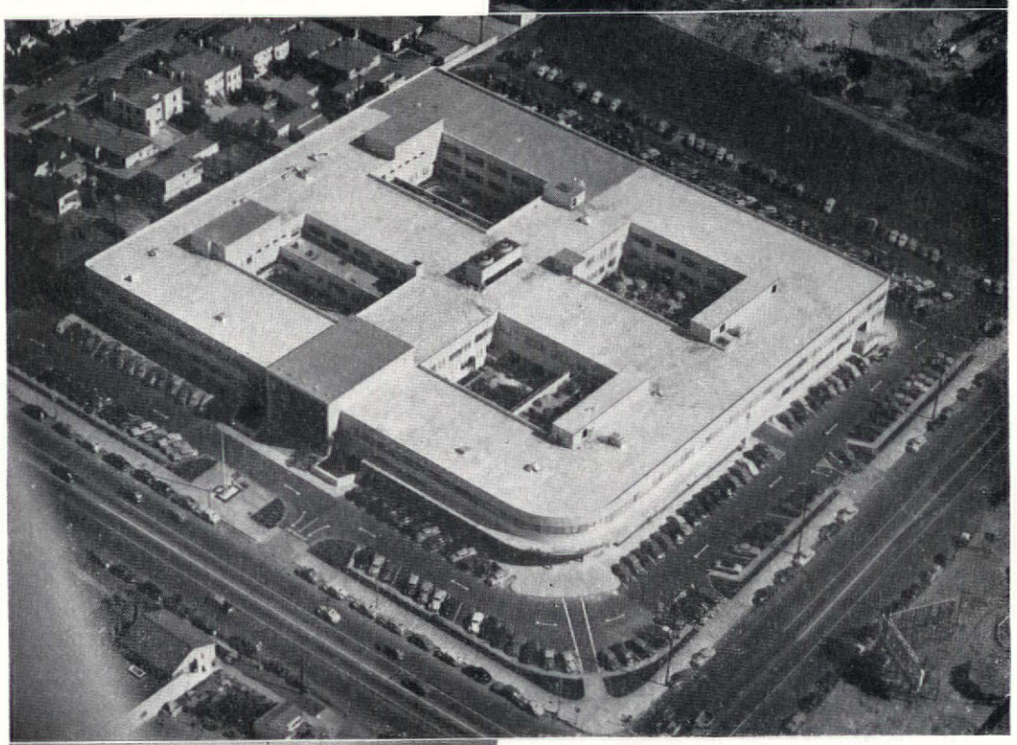


MONUMENTAL ENTRY at side of building serves 200 offices, seven research laboratories and an experimental display room. Rounded corner opens on "world's largest drug store", completely departmentalized and dominated by a circular "beauty bar" (right).

DRUG STORE HEADQUARTERS

Looking like a monument from the front and a huge belt buckle from the top, this two-story, three-acre building is actually the world headquarters of Rexall Drug Co., opened last month in Los Angeles. Architect: Albert F. Roller.





INTERIOR COURTS light inside offices and serve as rest areas for the building's 2,000 employes—a new wrinkle in California office "living". Drug store caters to auto-borne shoppers, boasts 300 parking spaces for their convenience. Press agents have labeled the building "a horizontal skyscraper—a modern monument to business."



RADIO AND RECORD SECTION is comparable in size to that of a music shop or department store, but its cluttered counters give an appearance typical of the average drug store.



FOUNTAIN ROOM seats 225 diners, not counting those at soda fountain.

which carries the houses between their production and erection, the new plan lowers the cash payment required with each order to 25 per cent and, more important, permits deferment of the balance (except freight costs) up to three months—time enough to deliver and enclose the house. The dealer, however, does extra work in return for this liberalized financing policy. Each order must be accompanied by a 6 per cent note written by the customer and endorsed by the dealer for the unpaid balance of Adirondack's bill. The dealer must also forward the customer's assignment of sufficient funds from the proceeds of the local lending institution's construction loan to retire the note and, finally, the institution's promise to recognize this assignment and to make the payment directly to Adirondack. Normally, the first or first two advances paid under the construction loan agreement will be sufficient to retire the note.

Although admittedly a complicated procedure, Adirondack's new financing plan is an answer to the No. 1 problem of prefab house dealers and buyers. As such, it also helps solve the prefabricator's No. 1 problem of distribution. It has already boosted Adirondack's sales to the limit imposed by current material supplies—an average of four houses per working day. And, with the aid of the new FHA-insured production loans for prefabers, Adirondack can spare more of its own cash for the revolving fund and, thus, extend its program of financial aid to dealers.

CITIES

SUPREME COURT TEST

Will race restrictive covenants be declared unconstitutional?

In November the Supreme Court of the United States will be called upon to decide whether this country will take down the "Restricted" signs which, with increasing frequency, are being hung in its residential neighborhoods. After ducking the question for the last 20 years, the Supreme Court has decided to review two cases in which race restrictive covenants had been upheld by state courts.

The explosive issue of whether minority groups may be legally forbidden to enter neighborhoods hitherto exclusively occupied by the U. S. "Caucasian" majority could hardly come before the Court at a more critical moment. The United Nations charter has focussed the world's attention on the responsibility of each member for guaranteeing the rights of its minority groups. In this country, acute housing shortage has exaggerated the plight of the biggest minority. Negroes, long bottled into substandard neighborhoods by race restrictive covenants and other devices.

First Judgment. The Supreme Court has never ruled on the constitutionality of race restrictive covenants. It refused to review the famous Butler vs. Corrigan case of 1926 on the ground that the issues upon which the appealing counsel wished to argue had not been properly raised in lower courts. If it should now find race restrictive covenants unconstitutional, these devices for legalizing residential segregation would drop out of real estate practice—just as the attempt to establish such segregation by zoning ordinances died in 1917, when the Supreme Court declared such ordinances in violation of the 14th Amendment (as depriving a person of property without due process of law).

The two cases on the Supreme Court's calendar for November (petitions for review covering three others have also been filed) both involve Negroes. Shelley vs. Kraemer covers a residence in St. Louis. The other case, McGhee vs. Sipes, covers a home occupied by a Negro family in Detroit. One of the cases for which a petition has been filed is especially interesting: it involves property owned by an interracial church in Columbus, Ohio and occupied as a rectory by the Negro minister of the church. Both appeals are being financed by the National Association for the Advancement of Colored People. Supporting briefs will be filed by a long list of organizations: American Jewish Committee, American Jewish Congress, American Civil Liberties Union, Congregational Board of Home Missions, CIO, National Lawyers Guild, National Bar Association.

Many Bars. The race restrictive covenant, written into a deed transferring title to a property, most frequently takes a form like this: "This property shall not be used or occupied by any person except those of the Caucasian race." But it is also sometimes written more specifically, like one now being contested in Ohio courts: "This property shall not be occupied by persons who do not celebrate the Sabbath on Sunday." In various parts of the country, specific covenants bar Chinese, Japanese, Indians, Mexicans, Armenians and even Seventh Day Adventists. The most malignant effect of this kind of covenant is its use in new subdivisions, closing off most of the new land developed for building and so pinning minority groups ever more firmly in race ghettoes in older neighborhoods.

Just how widespread are race restrictive covenants? The first exact study ever made has just been finished by Dr. John P. Dean for the American Jewish Committee.*

Race Restrictive Covenants in Subdivisions Developed During the Last Decade in Queens, Nassau & Westchester County, by Size of Subdivision

	Less than 20 parcels		20 to 74 parcels		75 or more parcels		Total	
	No.	%	No.	%	No.	%	No.	%
Subdivisions Race Restricted	11	8%	52	37%	35	83%	98	31%
Subdivisions Not Race Restricted	121	92%	89	63%	7	17%	217	69%
Number of Parcels	1,300		4,800		5,200		11,300	

Examining 315 subdivisions opened in the last 10 years in Queens, Nassau, Southern Westchester—the main outlets east of the Hudson for Manhattan's crowded population, Dr. Dean found that 83 per cent of the large developments (75 houses or more) are barred to Negroes. Smaller developments (20 to 74 parcels) show a lesser tendency to restriction: only 37 per cent are prohibited to Negroes. This does not, however, mean that Negroes have access to the smaller subdivisions.

Dr. Dean's opinion: "In the larger subdivisions where new properties are numerous enough to create their own new neighborhood, race restrictions are considered necessary to implement the uniform racial character of families moving in and to maintain uniform occupancy thereafter. But where just a handful of houses are constructed in an already-built-up neighborhood, interlocking friendships, mutual loyalties, and existing social pressures can be depended on as an adequate barrier against Negroes."

Dr. Dean thinks the percentages he calculated considerably understate the case, because many of the developments studied have not yet been completed, and restrictive covenants are often not imposed until after completion. The developments completed during the active building period immediately before the war show much higher percentages of restriction.

FHA Manual Changed. According to this study, the influence of the Federal Housing Administration on race restriction stands out with what Dr. Dean calls "embarrassing clarity." He found many covenants written in a wording paralleling the recommendation of the 1938 FHA Underwriting Manual: "prohibition of the occupancy of properties except by the race for which they are intended." In some cases the FHA was identified in the covenants' preamble: "Whereas the Federal Housing Administration requires that the . . . mortgage on the said premises be subject . . . to the said restrictions . . ."

This influential factor in the spread of race restrictive covenants has, however, recently been diminished. In the revised issue of the FHA Manual, the recommendation that properties be prohibited from any change in racial occupancy has been deleted. But FHA has not yet taken the stand which the groups fighting race restrictive covenants would like to see it take: disapproval of any property so restricted.

* To be published in full in the November issue of the Journal of Land and Public Utility Economics.

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U.S. PLASTIC

Naugahyde

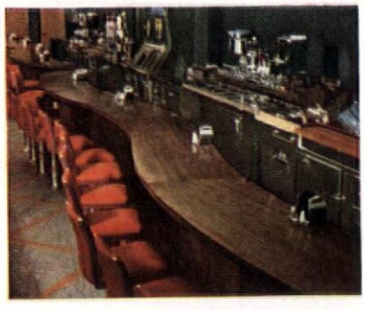
REG. U. S. PAT. OFF.



DAN CLARKS'—first post-war restaurant at South Bend, Indiana, is upholstered with Naugahyde—a decorator's scheme in itself.



Naugahyde is really practical for the handsome, comfortable booths and banquettes. A. A. Toth was architect for Dan Clarks'.



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We suggest that when you write specifications for bedrooms, living rooms, nurseries, foyers, you give a thought to Kencork. Flooring dealers everywhere have samples to show. And we will be glad to furnish further data and practical folders. David E. Kennedy, Inc., 69 Second Avenue, Brooklyn 15, N. Y.—324 Fourth Ave., Pittsburgh 22, Pa.—1211 NBC Bldg., Cleveland 14, Ohio—1355 Market St., San Francisco 3, Cal.—Bona Allen Bldg., Atlanta 3, Ga.—452 Statler Bldg., Boston 16, Mass.





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Roddis is concentrating its production facilities on stock sizes in the interests of our customers. The need today is for products. Exclusive stock size production means more Roddiscraft products for everyone sooner.

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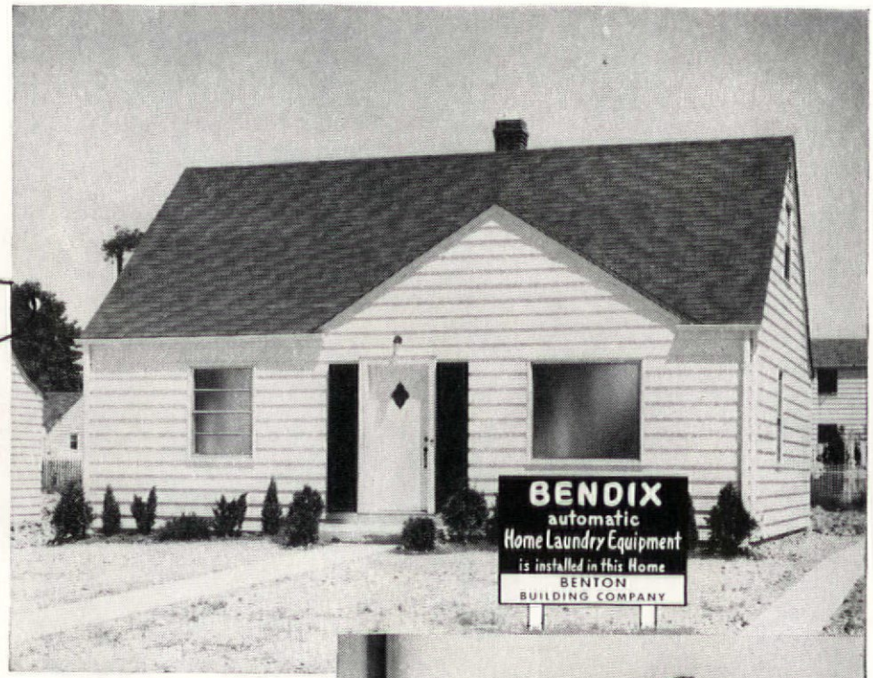
MARSHFIELD, WISCONSIN

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

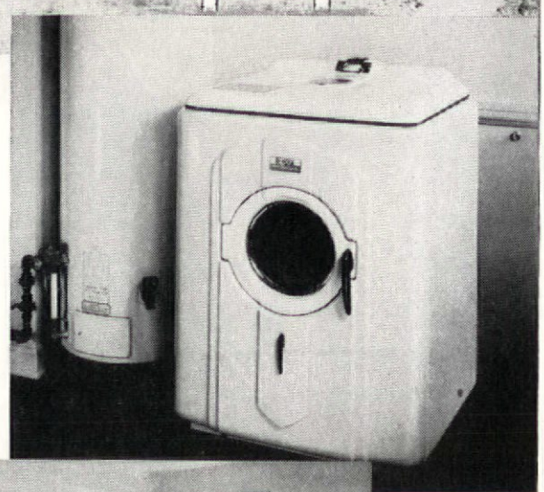
Cambridge 39, Mass. . . 229 Vassar St.
Chicago 8, Ill. . .1440 W. Cermak Rd.
Cincinnati 2, Ohio..457 E. Sixth St.
Dallas 10, Texas.....2800 Medill St.
Detroit, Mich. . 11855 E. Jefferson Ave.
Kansas City 8, Mo. 2729 Southwest Blvd.
Louisville 10, Ky...1201-5 S. 15th St.
Long Island City, N. Y., ...
.....Review & Greenpoint Ave.
Los Angeles 11, Calif., 2860 E. 54th St.
Marshfield, Wis...115 S. Palmetto St.
Milwaukee 8, Wis...4601 W. State St.
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BENDIX APPLIANCES INCLUDED UNDER FHA

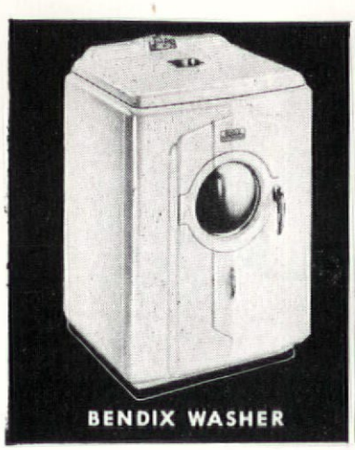
Each "Housemart" house, sold by the Benton Building Co., is planned to include a Bendix Washer, a Bendix Dryer and a Bendix Ironer. The appliances are sold with the house and financed in a "package mortgage" under FHA.

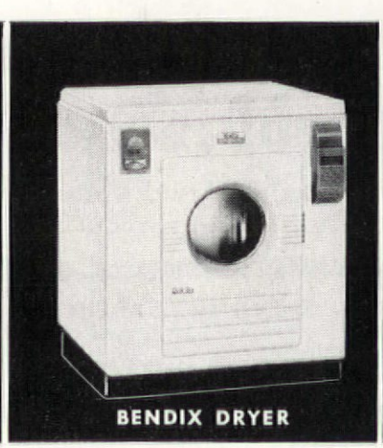
That saves the customer the trouble of making separate purchases in order to make the house ready to carry on the business of living.

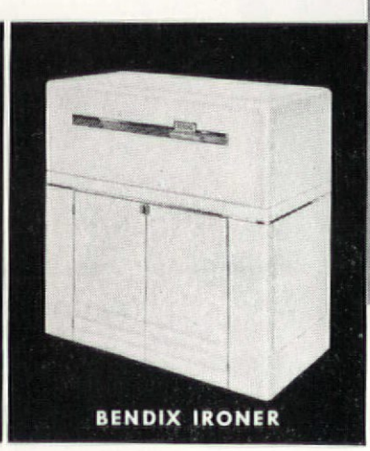
For the compact Bendix Washer will wash, rinse, damp-dry, drain itself, clean itself and shut itself off even when the housewife isn't present. It never slops the floor. It takes up only 4 square feet of space. The convenience of the Bendix Dryer, the simplicity of the Bendix Ironer help to free the housewife from washday drudgery.

There'a a tip to you, Mr. Builder! A house so planned and equipped sells quickly, and for a premium price. Plan it that way, equip it that way—and let the prospect know about it. The "Sign of a Smart Builder" on the front lawn will do that for you. See your Bendix Dealer.



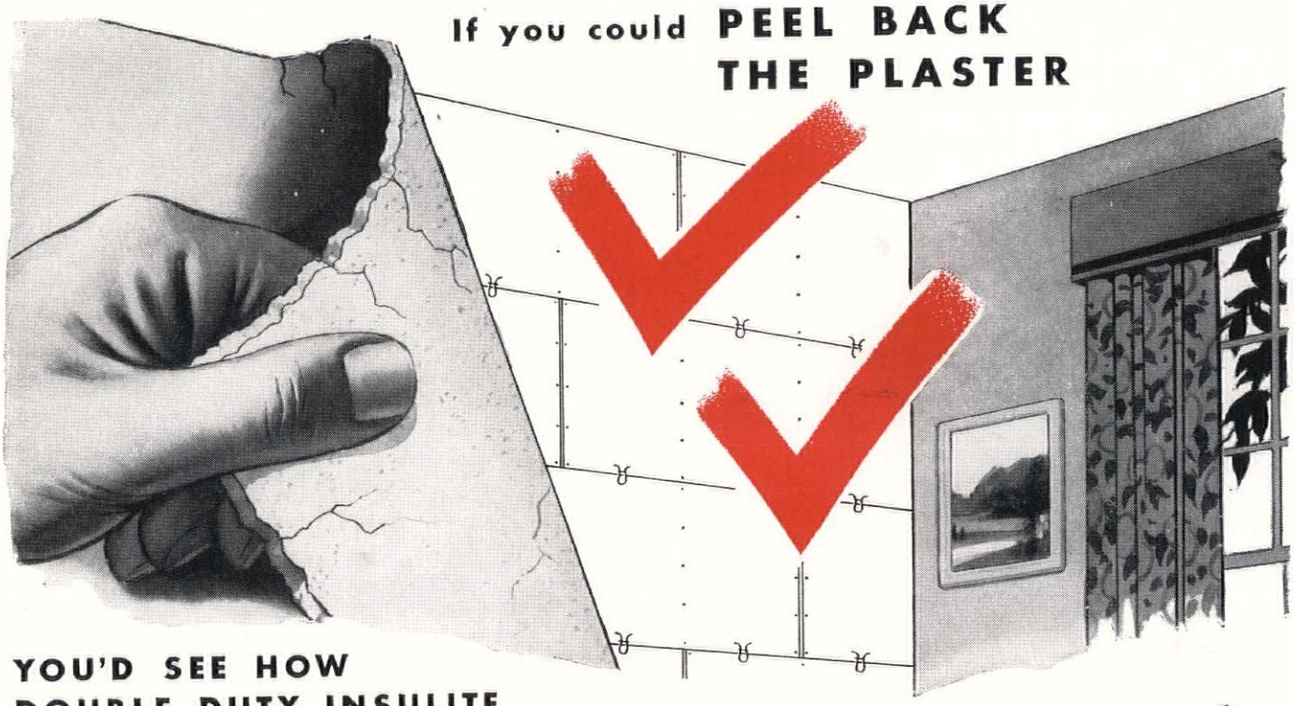

BENDIX WASHER


BENDIX DRYER


BENDIX IRONER

BENDIX
automatic
Home Laundry

BENDIX HOME APPLIANCES, INC.
South Bend, Indiana

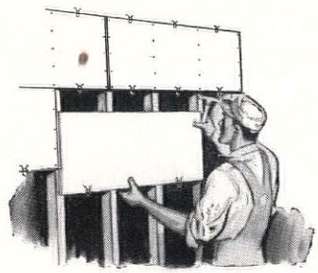


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Double USAGE

Refer to Sweet's File, Architectural Section 10 a/9

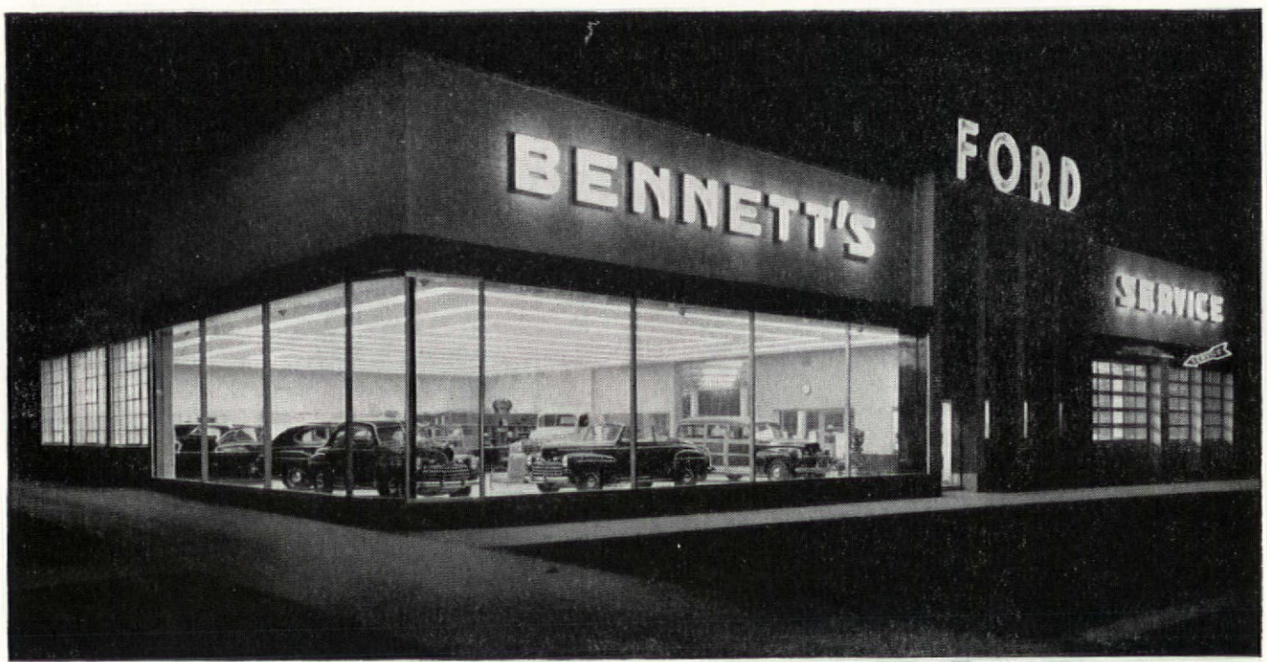
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Count on glass to provide the benefits your clients want in new storefronts. Beauty that catches attention . . . impressive display of merchandise day and night . . . and the practical matter of easy maintenance.

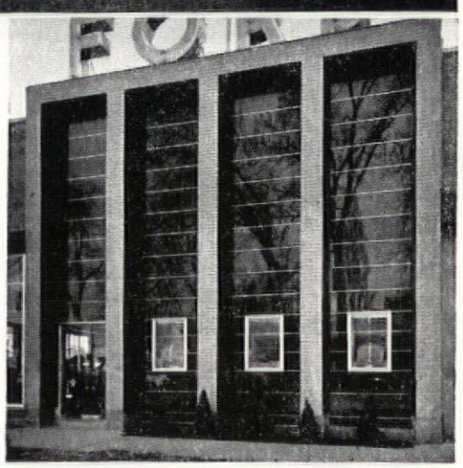
This dealer showroom in Salt Lake City takes advantage of the many benefits of glass. Transparency for visibility and light transmission. A hard, gleaming, weatherproof surface that always looks new and that doesn't need refinishing.

A Visual Front lets people *see in*. This principle of displaying the entire store to potential customers is being applied to stores of many types. Our colorful Visual Fronts book includes many ideas that you'll find helpful in your storefront planning. Write for it. Libbey·Owens·Ford Glass Company, 64107 Nicholas Building, Toledo 3, Ohio.

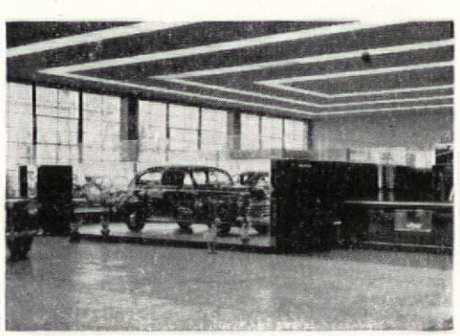
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VISUAL FRONT

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THE BEAUTY OF GLASS is an important element in building design. Here, lustrous black *Vitrolite** glass facing over the solid area "dresses up" the front. *Vitrolite* is available in a range of colors. They permit wide latitude in decorative effects. *Tuf-flex** tempered plate glass doors enhance the beauty of the front.

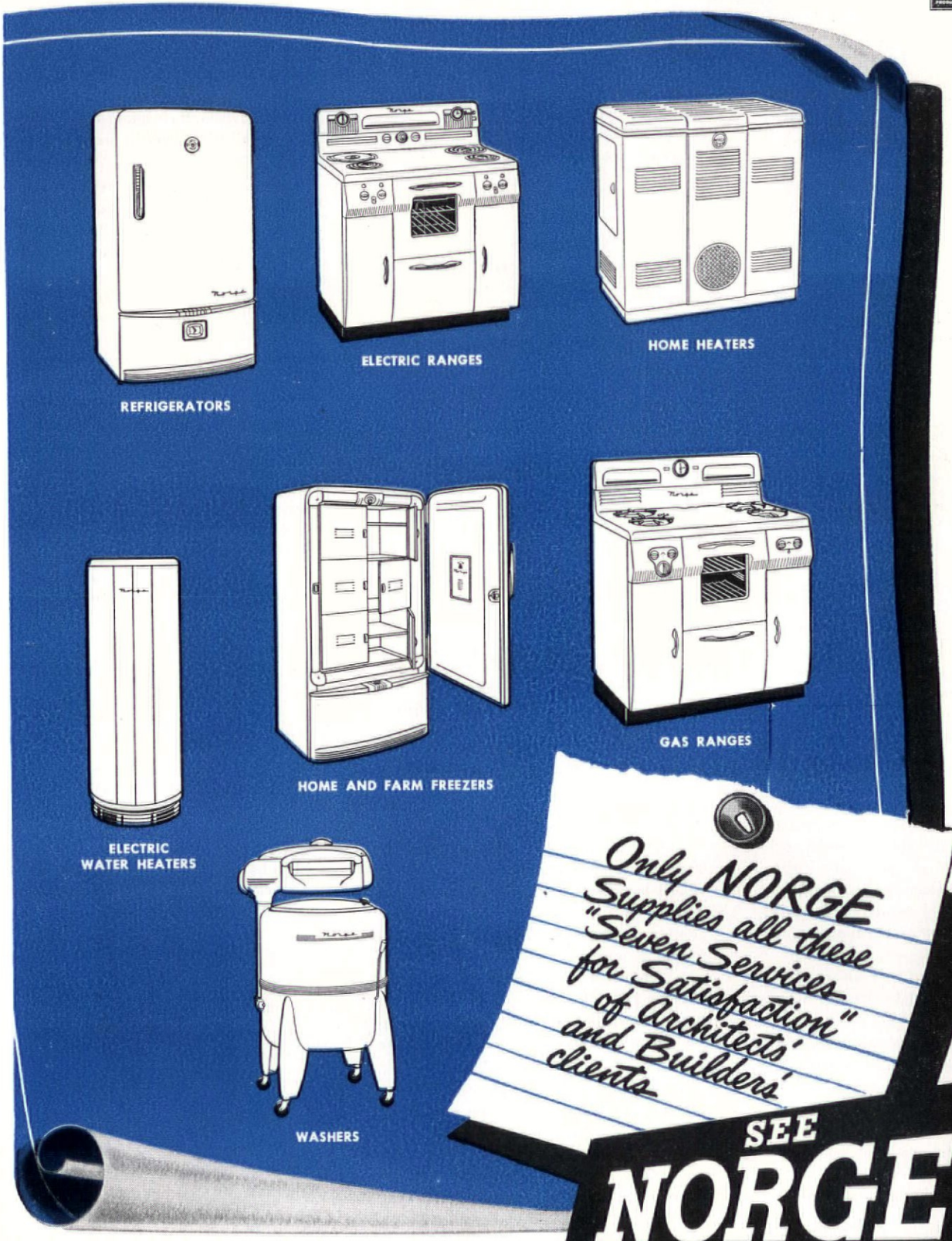


A FEELING OF SPACIOUSNESS is achieved in the showroom, and the display appears to be doubled by the use of plate glass mirrors on the end wall. In addition, *Vitrolite* is used here for attractive facing on the counter. Note the recessed ceiling lighting through panels of Reglex patterned glass.

Architect: Young and Hansen, Salt Lake City.

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LETTERS

Cold Beer and Deadfalls . . . Banalities of Would-be Modern . . . South Africa Finds Us Uplifting . . . Gropius in Berlin . . . Architecture is Just Like a Wife.

DREAMLAND

Forum:

I wish to express my sincere approval of the article "Coney Island" (FORUM, Aug. '47). It was a masterpiece, a link between architecture and the psychology of human beings. It truly made that issue of FORUM a worthwhile one from a sociological and humanistic point of view. It also took the feeling of "fresh mortar" out of the magazine which one gets as he reads about the latest buildings, materials and methods. It was a very successful attempt to make the FORUM a magazine which looks at *all* phases of architecture.

BERNARD D. RIEGLER

Toronto, Canada

Forum:

. . . The Coney Island of today is the direct result of easy access for the masses by means of rapid transit, yes — but not subways. By the turn of the century, four lines of railway reached the Atlantic at Coney Island — the Brighton Beach line from Franklin Avenue and Fulton Street, the West End and Culver lines from 36th Street, and the Sea Beach line from 65th Street—all in Brooklyn—and service from Park Row followed shortly. In the period 1899-1905, for instance, there flourished not only Luna Park, Steeplechase and Dreamland (a famous waltz tune was named after the latter), but Stauch's dance hall and Henderson's Music Hall—and several more.

These and the various other amusement resorts were certainly not supported by "the more privileged groups," but by hoi polloi—and how! Indeed, so common and so numerous were the deadfalls in "Coney" of that day that a pat phrase of the nineties told of "being taken to see the elephant" when anyone was treated as a sucker. The huge wooden elephant at Coney was a famous goal for the slick boys.

The glare and the blare were there as one left the trains at the huge Sea Beach Palace, where a giant orchestra deafened, and thousands of lights blinded, the happy visitors who'd never heard of decibels, repressions and frustrations. The beer was cold and cheap, the music sane, and the . . . girls in the dives complaisant, if somewhat gauche . . .

All of this happened before the BRT subways were built (somewhere between 1915 and 1920). Incidentally, I was told that Coney Island was so named because of the conies, or rabbits, which had infested the region at one time.

I would like to meet some of your research staff—maybe some of my other recollections would be of help.

A. S. NOERAGER

Cleveland, Ohio

Beer and hot-dogs are on us whenever reader Noerager has time to run through more of his highly accurate recollections.—ED.

RIGHT AND LEFT OF LUSTRON

Forum:

Cover designs such as on the July issue do not grace the table in either a lovely home or a smart office. They offer nothing after the first look but a pronounced effect of cheapness. I hope you can often afford covers with a more lasting eye interest, as on the June issue (Lustron house).

. . . Your comments on the contemporary movement in architecture would be more valuable if your viewpoint were not rather prejudiced or biased. I say this because you imply a basic premise many believe false: viz. the policy of assuming that all current traditional architecture and modern architecture in traditional clothing is something to be abhorred.

I am a designer in an office doing some of the most advanced modern store interiors, so I hold no brief for bad architecture in any language. May your wisdom grow.

WILLIAM F. ROSSER

Mount Vernon, N. Y.

Forum:

This letter is one of criticism based on disillusion and perhaps naiveté. For a long time I have been about to write, asking if FORUM feels that it is doing a worthwhile job for the professional architects to whom its name implies that it is directed. As an old subscriber and one-time inveterate booster, I question if it is, and would like to toss some random remarks into the ring to find out what the editors and perhaps some of my colleagues think about it.

With every increase in its technical facilities and financial resources, which by now must be at least the equal of any comparable magazine in the world, FORUM seems to me to have a comparable decrease in fresh ideas and humble, straight-forward spirit. The banalities of the would-be modern designs presented grow in direct proportion to the magnificence of the color photography used to display them. As the example nearest at hand, look at the June cover. This may be an excellent house from a technical angle, but why emphasize its weakest point — the design expression — with a full color photo? No wonder intelligent laymen turn against the very word "modern" when this is presented as such.

. . . The contents don't indicate much genuine thinking any more, either—with a few exceptions such as the rare but excellent "Design Analyses." Why is it that so many foreign magazines such as the French *l'Architecture d'Aujourdhui*, the Finnish *Arkitehti*, the Swedish *Bygmastaaren* and especially the Italian *Domus* consistently offer such excellent, provocative and down-to-earth information? I can only conclude that it is because they are poor and must substitute intellectual resources for financial ones.

Yet I am sure that the FORUM staff has the inherent ability. It used to have, and the direction hasn't changed very much. Perhaps it just needs a little stimulus now and then. Also, it could take a long walk out into the eastern countryside—sit under a tree and read a good healthy book like *Communitas* or *Walden Pond*. I'm certain the next few issues would have a better slant.

FRED BASSETTI, Architect

Seattle, Wash.

If future issues of the FORUM should fail to arrive, readers can address us at Walden Pond. —ED.

KIND WORDS

Forum:

We wish to congratulate your publication upon having, in the August issue, the clearest and most thorough explanation of 608 and its workings that we have ever seen.

H. A. MACMILLAN

Detroit, Mich.

Forum:

Please pardon me for making a few comments on The FORUM.

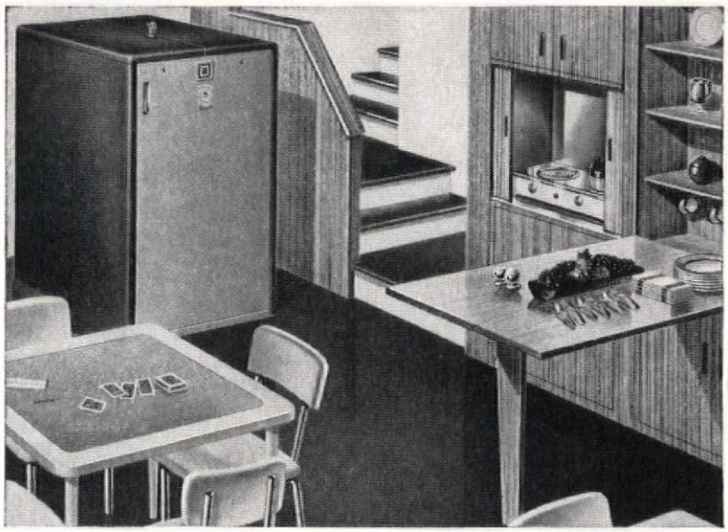
TO BEGIN WITH, American Genius is herein outlined effectively.

SECONDARY, it also covers foreign lands giving complete information about new developments in strange Countries.

FROM BEGINNING TO END, it is a magazine trying to "uplift" humanity to a higher level and noble thinking. The individual Homes Illustrated are more than Inspiring; Places of Commerce likewise.

(Continued on page 26)

Interesting Interiors like these made easier with AMERICAN-Standard



Convenient and Comfortable

The trim, colorful **OAKMONT** Oil Boiler enriches the attractiveness of this cozy little basement buffet and game room. But, there's more than good styling to the Oakmont. Like other American-Standard products, it's as efficient as it is smart looking. Inside the Oakmont's smart Canyon Two-Tone Red jacket are all the sound engineering and construction features needed to provide small to average size homes with the carefree comfort and cleanliness of dependable, automatic oil heating.



Bright and Beautiful

No room gets closer scrutiny than the bathroom. This gleaming, conveniently arranged room more than "wins approval." It stands out! The roomy bath is American-Standard's popular **MASTER PEMBROKE**—a well proportioned bath constructed of rigid cast iron and finished with a heavy coating of durable, easy-to-clean enamel; the lavatory is the graceful **COMRADE** — of genuine vitreous china with legs, towel bars and other exposed metal of non-tarnishing Chromard; the water closet is the quiet **COMPACT**—of genuine vitreous china with dependable syphon vortex water action.

AMERICAN-Standard HEATING · PLUMBING

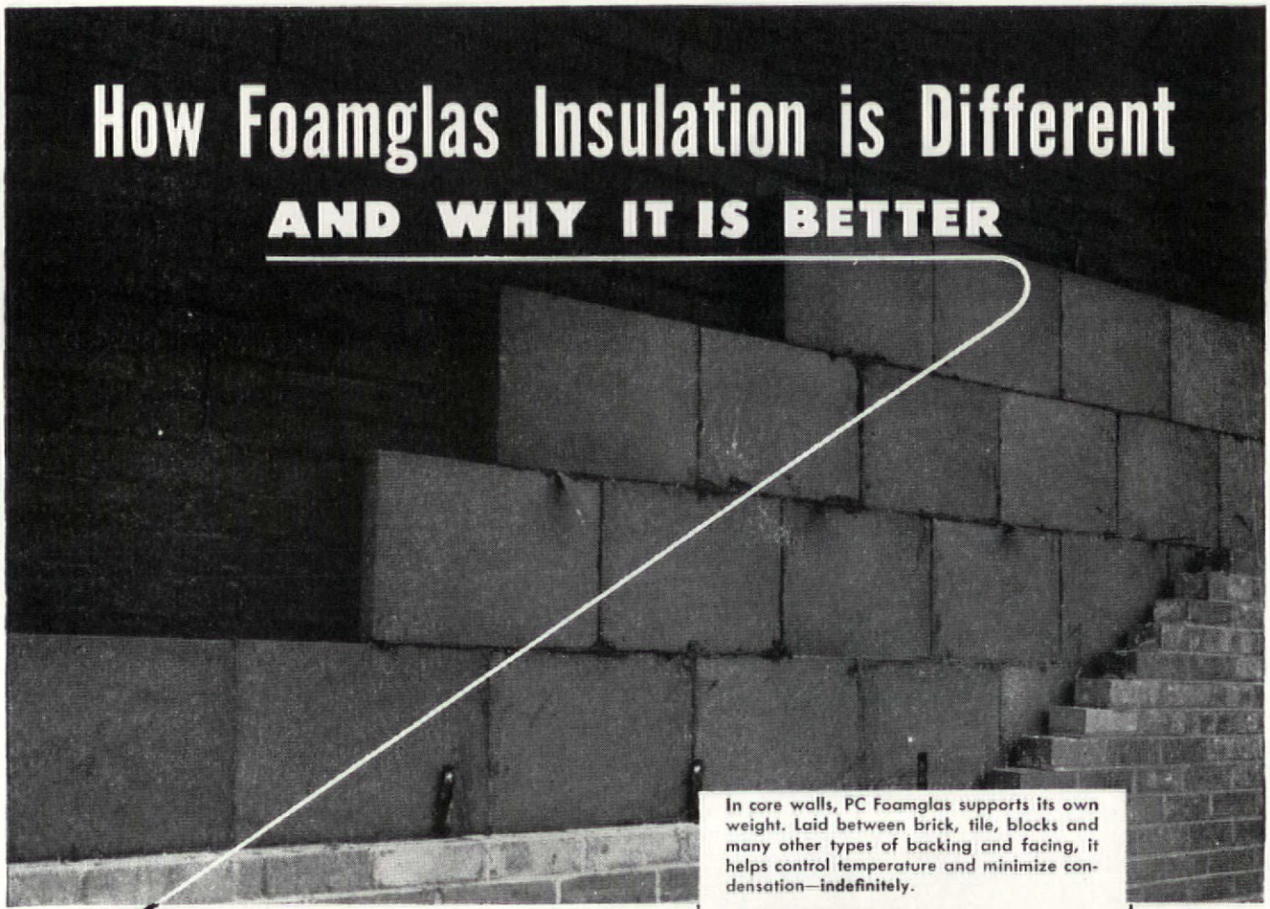
Yes, American-Standard Heating Equipment and Plumbing Fixtures are designed to fit in with any architectural plan . . . and styled to enhance any decorative scheme. But smart appearance is but one of many reasons for specifying products that bear the famous Mark of Merit. For, in engineering features and quality of construction, they are also as fine as money can buy. It is no wonder that more American homes have heating and plumbing by American-Standard than by any other single manufacturer! For complete information contact your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

Serving the Nations' Health and Comfort

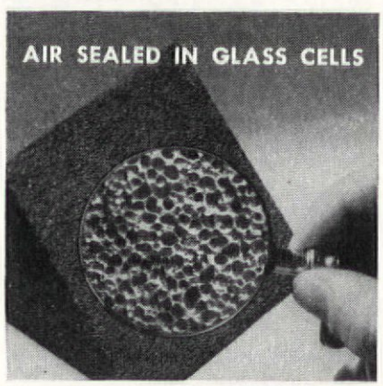
LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.

How Foamglas Insulation is Different

AND WHY IT IS BETTER



In core walls, PC Foamglas supports its own weight. Laid between brick, tile, blocks and many other types of backing and facing, it helps control temperature and minimize condensation—indefinitely.



PC Foamglas is the only material of its kind. It is not a fiber, not a wool, not a board or a batt. It is literally a foam of glass, solidified into big, light-weight blocks, each composed of millions of minute air-filled glass cells. That is how it is *different* from other insulating materials.

Its unique cellular structure gives Foamglas excellent insulating properties. And since it is glass—and therefore impervious to many elements that usually damage or destroy other insulating materials — PC Foamglas retains its original insulating value *permanently*. That is why it is *better* than other insulating materials.

PC Foamglas has proved its ability to help maintain temperature levels, to minimize condensation, in structures of all kinds, without repairs or replacement due to failure of the material. First cost is last cost when you insulate with PC Foamglas — whether walls, floors, roofs or ceilings. When you insulate with Foamglas you insulate for good.

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YOU INSULATE FOR GOOD!

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FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS.

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Pittsburgh Corning Corporation
Room 480, 632 Duquesne Way
Pittsburgh 22, Pa.

Please send me without obligation, your FREE booklets on the use of PC Foamglas insulation for:

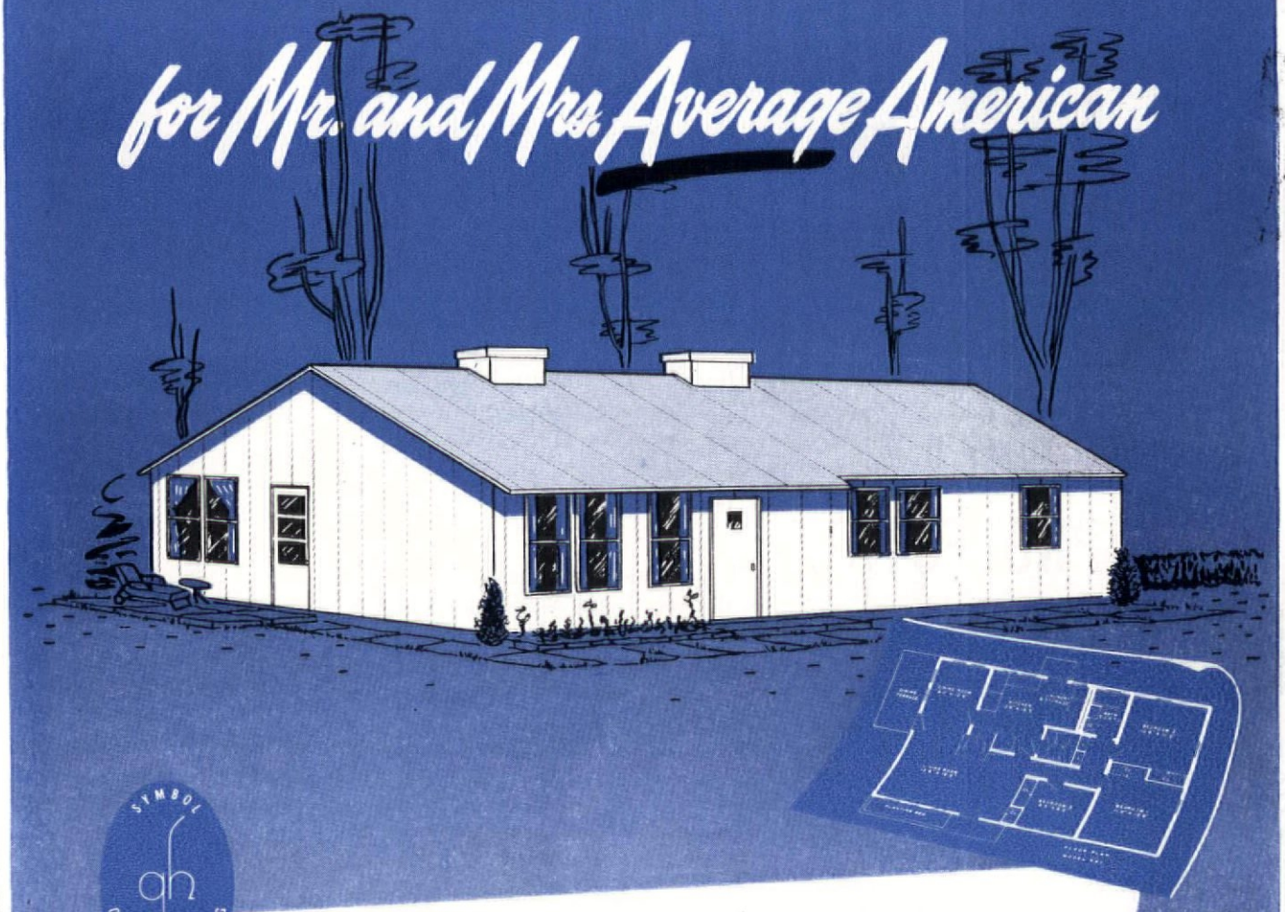
Roofs_____ Walls_____ Floors_____

Name_____

Address_____

City_____ State_____

for Mr. and Mrs. Average American



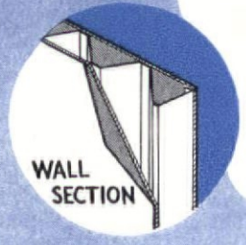
SYMBOL OF GOOD HOUSING

It's in production now — the postwar home, modern as tomorrow, at a prewar price. Here is an all-aluminum, industrially-built dwelling which can be delivered within 45 days after receipt of order. Your customer can be living in it a week later.

Pictured above is the Model 401 — The Tauxemont — one of a group of 54 now being erected on a wooded site not far from Mt. Vernon in Virginia. A three-bedroom home, containing 1080 square feet — it arrives on the job complete from chimney-cap to front-door key. Factory package includes shell, insulation, doors and windows, plumbing, heating and electrical systems, flooring, kitchen cabinets and the paint for the finish coat. Model 207, The Granville, is a two-bedroom unit of 873 square feet — and is also available now on the same fast delivery basis.

Mass-produced with precision tools, the General Home's modular construction makes possible an astonishing flexibility of floor design. Generous living space, remarkable insulation, an amazing sound-proof quality, the versatile "storage wall" closets, speed of erection are but a few of the factors which give this home a high degree of consumer acceptance.

Inquiries are invited from site developers, as well as from firms and individuals interested in local erector-dealerships. Write for details.



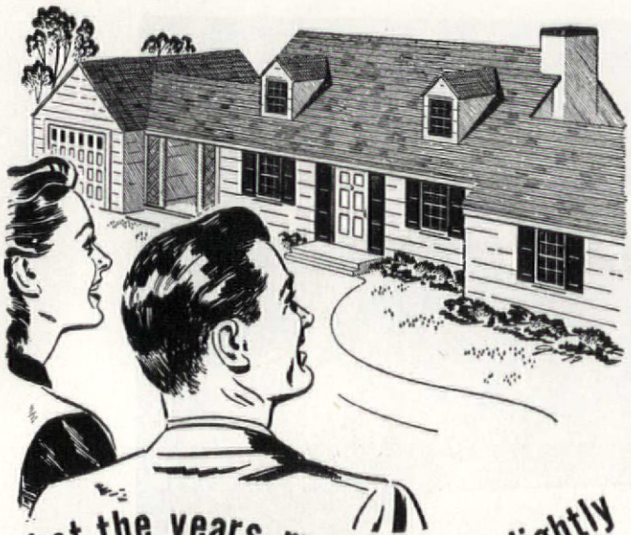
All walls in the General Home are 5" in thickness and are a patented construction of aluminum corrugation, sheathed on both sides with ½" Celotex and an aluminum "skin." These walls will carry 3500 lbs. per running foot with a safety factor of 2.5. U-factor (heat loss) .123.

CAN BE FHA-FINANCED

GENERAL HOMES, INC.

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LETTERS



that the years may touch it lightly

-this NDMA PROTECTION

Their forefathers built homes of wood—the building material of the ages. And today, this young couple is secure in the knowledge that wood is a better building material than ever! NDMA standards of toxic preservation for woodwork such as doors, screens and windows have helped to make it so—have added further assurance of lasting value to wood's natural qualities of endurance.

NDMA Toxic Preservative Standards are backed by the integrity of a great industry—and by the utmost resources of science. Behind the NDMA seal of approval stand the six measures which this non-profit organization maintains in the public interest.



1. An efficient test for measuring effectiveness of toxic preservatives.
2. Minimum standards governing the toxic preservative treating of woodwork products.
3. A seal identifying products treated in conformity with NDMA Toxic Preservative Standards.
4. Mill inspection of treating equipment and practices.
5. Laboratory check-tests of preservative solutions.
6. Educational effort in the public interest.

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It is a periodical of much credit to North America and can be destributed about the world to great advantage.

HENRIK GARSON
Rondebosch, South Africa

Forum:

Congratulations on the review of the recent literary efforts of Le Corbusier (FORUM, Aug. '47). This is the right kind of approach to a great man, better than the niggling criticism which is presented at A.I.A. meetings or the fulsome and uncritical praise which still turns up in some places. It is a good idea and a courageous one to assess the great as well as the small.

JOHN E. BURCHARD, Director of Libraries
Massachusetts Institute of Technology
Cambridge, Mass.

SLIPS THAT PASSED

Forum:

I have observed in your recent article in re the Magnificent Mile, Chicago, the last two sentences:

"But some of the less spectacular members of the real estate brotherhood noted that Zeckendorf told the mortgage bankers' meeting last month in New York that the Flushing project seemed to be withering from lack of financial backing. They hoped the Magnificent Mile would not be rechristened the Missing Millions."

For your information, no such statement was made at the Mortgage Bankers Meeting last month. Further, we are proceeding with all speed permitted by the City statutes for completing arrangements for construction.

WILLIAM ZECKENDORF
New York, N. Y.

We are as glad as Mr. Zeckendorf that the Flushing development seemed to be withering only in some crossed pothooks turned in by our ordinarily Gregg-reliable reporter.—ED.

Forum:

In your July issue (p. 16) it is stated that apartment tenants are being urged to demand the painting "required every two years under federal rent rules."

Lest those involved be put to needless effort, we cite OPA Form D-SC-2-NY "OPA Painting . . . Procedures as . . . Effective 3/15/46," page 3, in which it is stated that where it was customary to paint every two years or less, the landlord will now be required to do this "within three years," and where painting was done every three years or more, "a grace period of one year will be added to the customary period."

OLIVER WILLIAMS
New York, N. Y.

Forum:

In the interest of accuracy, I call attention to an error in the calculations as to the cost of land shown on the reproduced FHA Form No. 2013W of the August '47 issue.

The cost should be $13,068.00, a neat saving of $600.00 on the cost included in this "approved" Application For Mortgage.

JAMES CONSTRUCTION CO.
St. Paul, Minn.

Bright-eyed reader Feurt can have a proofreader's job here any time he wants one. Since the chart was a hypothetical example, FHA's error in multiplication could also be corrected by upping unit land cost by .23 of one cent. —ED.

FUTILE RE-HASH

Forum:

Your review of "America's Needs & Resources" and "Public Investment & Full Employment" (FORUM, July '47) reveals the utter lack of imagination in our economic experts and researchers.

They persist in rehashing old and futile economic plans which will never solve our problems of housing. The problem goes deeper than these gentlemen can imagine. Eric Johnston, former president of the U. S. Chamber of Commerce, once hinted at the solution in his statement: "Make everyone a capitalist." That should fire the imagination of all those honestly seeking a way out of our housing dilemma.

J. A. ALTSCHULER, Architect
Clearwater, Fla.

BERLIN'S FUTURE

Forum:

Dr. Walter Gropius is presently in Berlin, largely through our efforts, ably seconded by Carl Friedrich, professor of government at Harvard. He arrived last Tuesday, and it so happened that that evening the working party of our committee was reporting on the plans we had been making for the use of such time as he would give us during his brief stay in Germany. We invited him to attend our meeting; and along about seven p.m. he was shaking hands with Hans Scharoun, Max Taut and Paul Bonatz, men he had worked with here and in Dessau fifteen years ago. Ours is, of course, an after-hours, informal committee with no authority to do anything, but determined, if it is at all possible, to help in creating a world in which Germany will not be the enemy.

How is that to be done? And can it be done without the whole-hearted cooperation of the best creative minds in Germany?

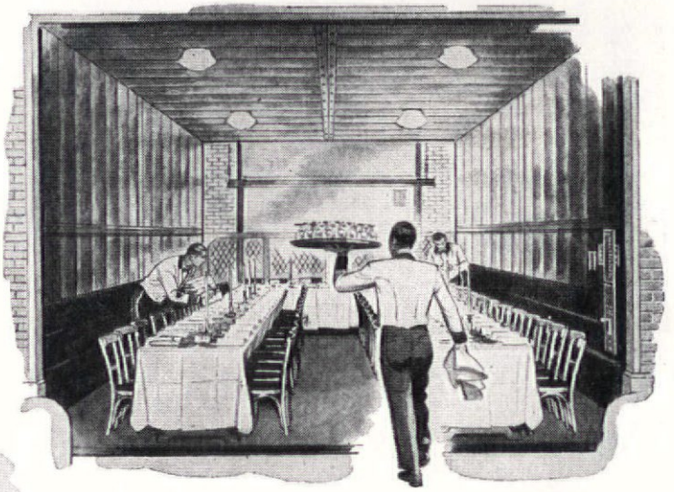
We don't think so. And so we are meet-

(Continued on page 30)

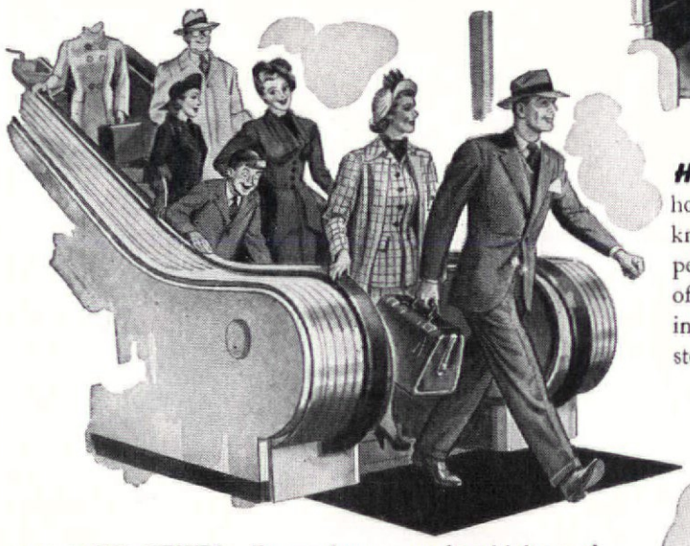
skylines... by Otis



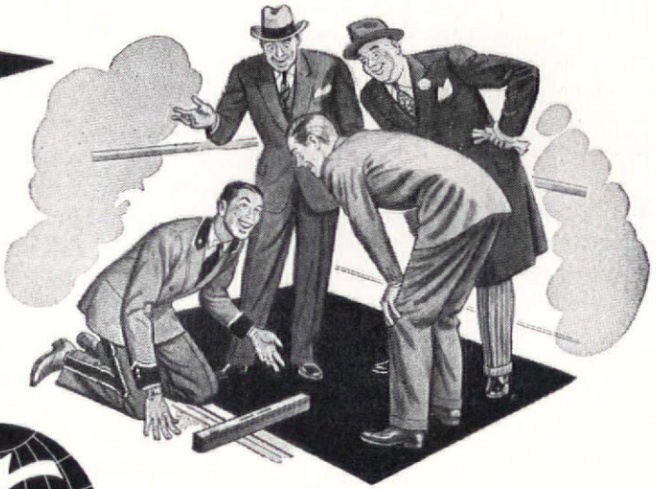
In San Francisco, for example, there are 3,394 Otis elevators — more than all other makes combined. High-spot of this beautiful city is the famed "Top-of-the-Mark" Lounge, atop the Mark Hopkins Hotel (*upper left*). Two of the hotel's high-speed Otis elevators are reserved for express travel to the Lounge.



64-DINER QUESTION. Ever hear of a banquet in an elevator? Among the world's largest, the freight elevators in the Port of Authority Building in New York have a floor area of 17 by 34 feet — large enough to comfortably seat the 64 diners who held a banquet in one of them. These elevators can handle fully-loaded 10-ton trucks weighing up to 40,000 pounds at a speed of 200 feet per minute, and are just one more example of Otis' ability to build the right equipment for any materials-handling job.



HOW MANY MPH? In Escalators it's not "miles per hour" but men and women per hour that counts. Did you know, for example, that one Escalator can carry 8,000 persons in an hour — the equivalent of the entire population of Cleveland, in a week? Yes the 2,000 Otis Escalators now in service are doing a major transportation job — in retail stores, railroad stations, banks, and other public buildings.

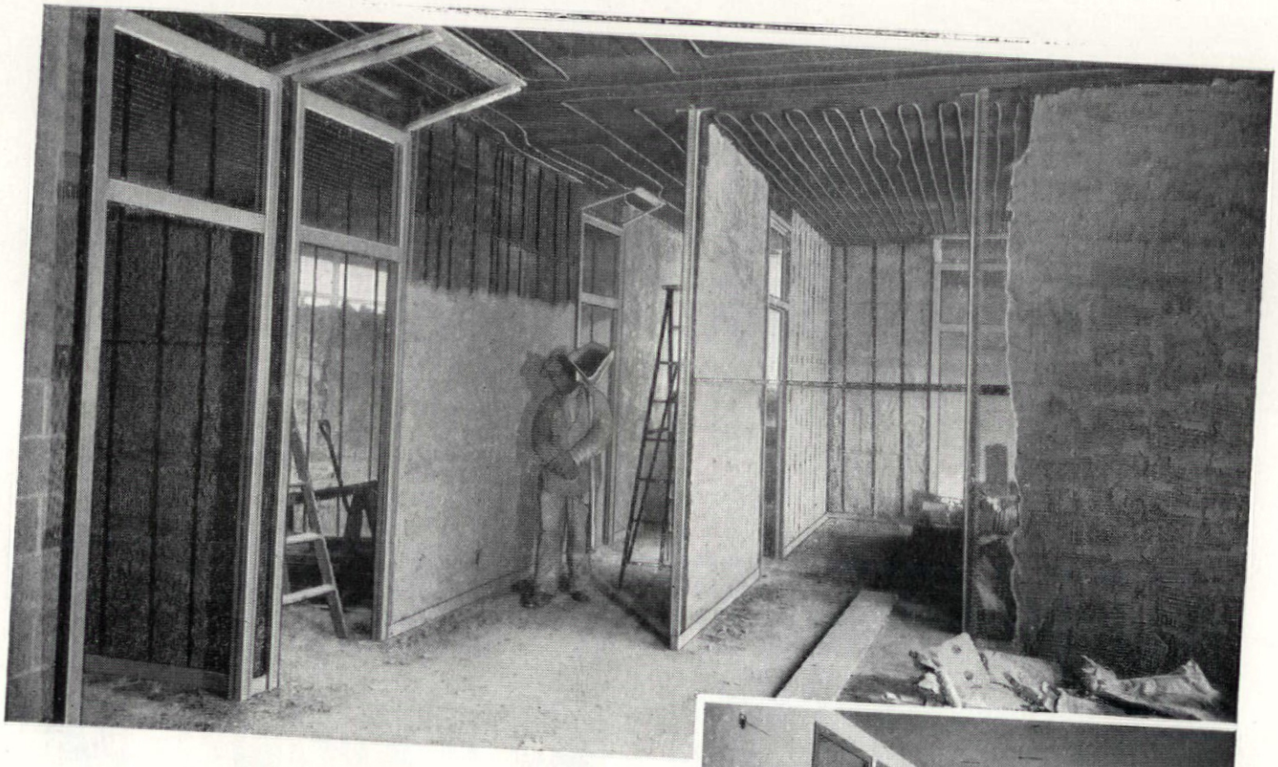


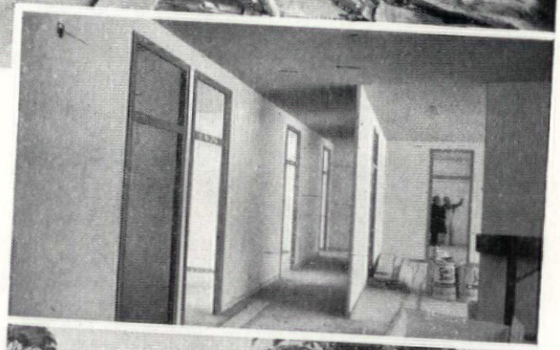
ON THE LEVEL. Do you know a modern high-speed elevator *automatically* stops level at every floor? This Otis development, known as Micro Self-Leveling, continuously maintains the relation between the car and the elevator landings, automatically bringing the car to a fast, yet smooth stop. At each landing it corrects for over-travel or under-travel, irrespective of varying loads or direction of travel. Elimination of "car jockeying" adds to passenger comfort and saves a lot of time.

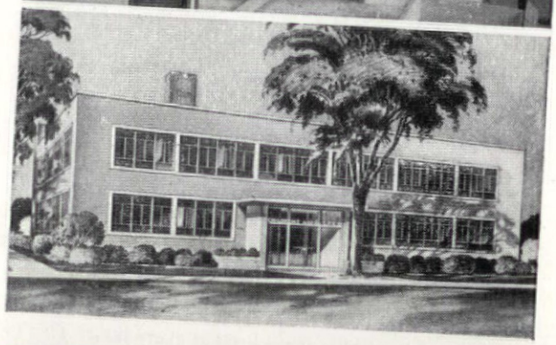
Have you a vertical transportation problem — in an office building, a factory, an apartment house, a store? If so, there is an Otis man in your city who will be glad to give you the benefit of our 94 years' experience.

ELEVATOR COMPANY

Offices in all principal cities







How to get MORE SPACE for LESS MONEY!

WHEN you can use the *most economical* fireproof partition known, and still get about 7% more working space, that's news! But that's what Architect James Kideney did when he designed the new Children's Aid Building in Buffalo, N. Y.

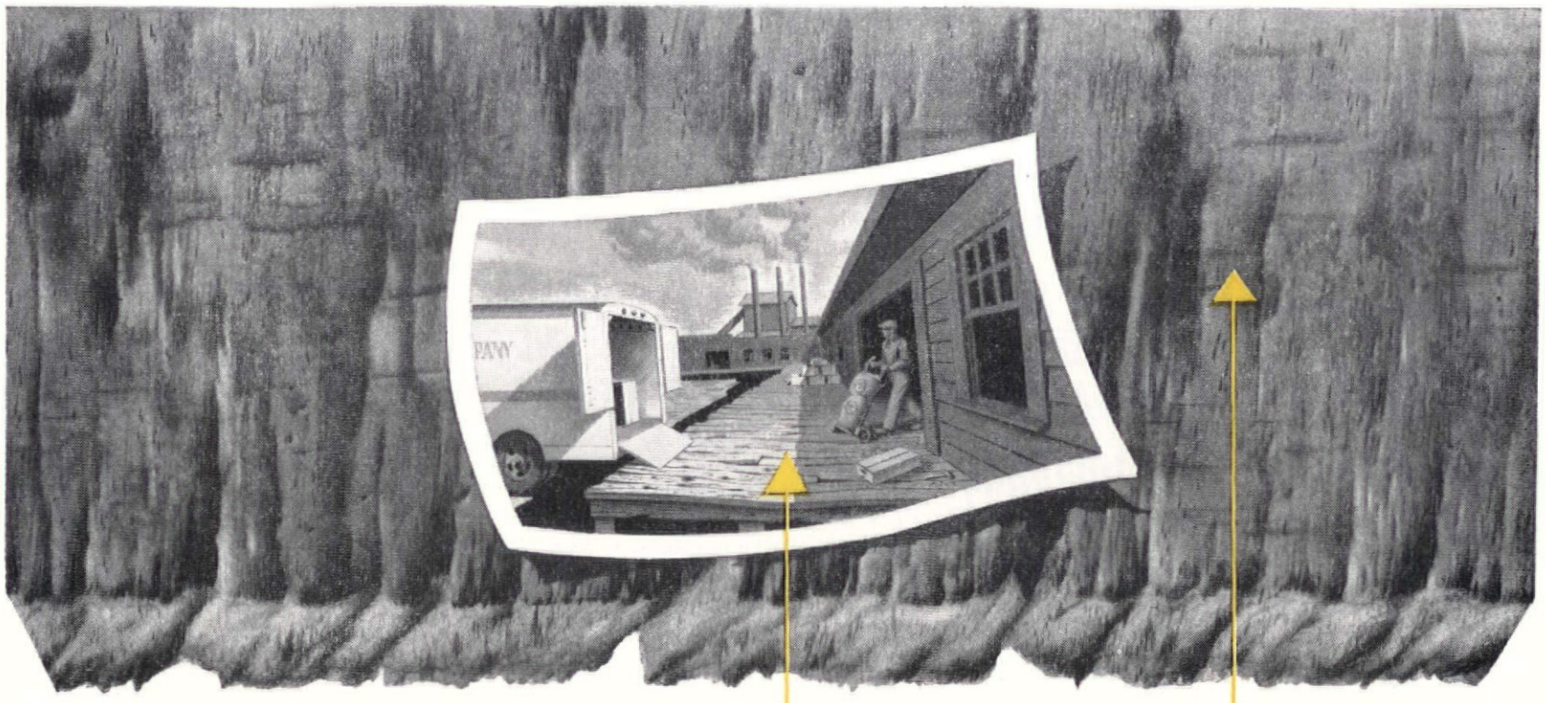
Mr. Kideney saved space and money by specifying the famous Gold Bond 2-inch solid partition with the patented flush type metal base. These sturdy crack-resistant metal lath and gypsum partitions also mean less weight and faster construction. They have earned an official sound reduction rating of 37 decibels, which is comparable to other conventional types of partitions.

For additional sound control *inside* each office, Mr. Kideney specified Gold Bond Macoustic ceilings. Macoustic ceilings combine a comparatively smooth monolithic finish with unusually high sound absorption—.50 at 512 frequency. A gypsum-base product, Macoustic is fireproof, and absolutely permanent. No special tools or specially trained applicators are required. You'll find Gold Bond partitions systems and sound control products described in detail in our section of Sweet's, or write:

NATIONAL GYPSUM COMPANY
BUFFALO 2, N. Y.

You'll build or remodel better with Gold Bond

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.



penta- could have prevented this!

ANOTHER DOW PRODUCT

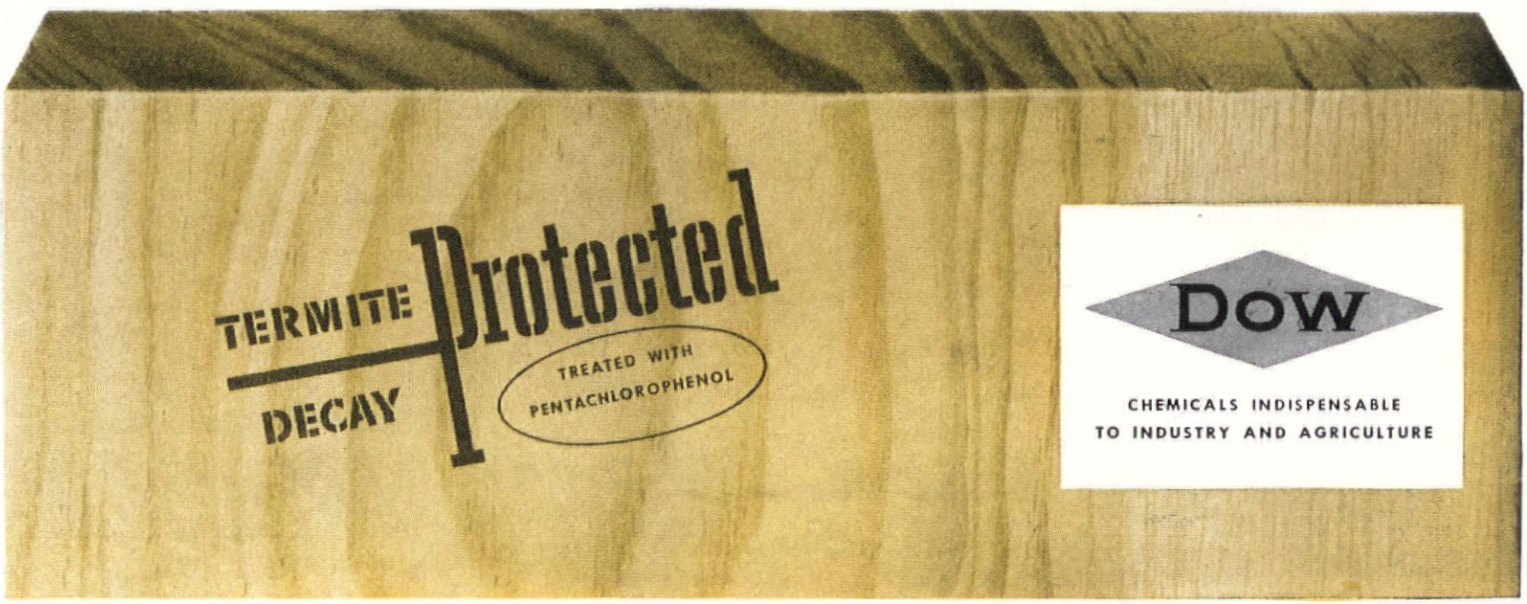
chlorophenol

It's a familiar picture—good lumber weakened by decay or riddled by termites. • Pentachlorophenol could have prevented it. Now exposed wood in any structure can be given *tested protection* against decay and termites by *clean* treatment. There's no offensive odor, stickiness, or ugly discoloration—and the lumber, properly treated, is paintable. • Clean Pentachlorophenol treatment gives you the economic advantages of low cost wood protection inside buildings as well as outside. Its effectiveness against both decay and termites assures quick return of its low cost. • Pentachlorophenol is applied at low concentrations in petroleum oils by established pressure and non-pressure treating methods. It is at last available in quantities that promise to meet the increasing demand.

GET THE FACTS TODAY—*Send for this free booklet that gives you the facts about Pentachlorophenol, the tested protection that can cut maintenance costs in industrial construction. Ask for Booklet No. PE-11.*



THE DOW CHEMICAL COMPANY · MIDLAND, MICHIGAN



Look To PAINE REZO DOORS For These Advantages



The values provided by Paine 1¾" Rezo Doors have never been as pronounced as they are right now. They square with owners problems in building apartments that will earn *a profitable return in normal times.* These patented air cell doors, with self-ventilating channels that minimize warping and shrinking, are still the cheapest doors you can specify when all installation and painting costs are figured. And they are still the best doors on the market by any standard of beauty, strength or workman-like construction.

U.S. Pat. 1,887,814.

Because their quality advantages are so crystal-clear, so black on white, Paine Rezo Doors are more than ever in demand by architects everywhere. Over 2,000,000 of them have been specified for service from coast-to-coast. Write today for a factual, detailed architect's bulletin.

Manufactured by the
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ESTABLISHED 1853

ing, after office hours, with Dr. Gropius and his friends in the hope that we may, in the next few weeks, be able to work out some plan (at least to help the architectural students) that can be presented for comment, criticism and whatever action you feel can be taken. It won't be easy, for there are many ancient grudges, wounds that must heal, and hates that must die, as has been pointed out to us by R. D. M. Grier, assistant director of the Minneapolis Institute of Arts, who writes:

"Re: Your suggestion that a collection of drawings, elevations, models, etc., of the new Berlin be circulated as an exhibition here in the States as a means of raising funds for essential materials needed in Berlin's architectural schools. I have for some time been interested in the possibility of an exhibition of German art; works created during the period of the Nazi regime, of the war period and the period of occupation. Shortly after my return I suggested such an exhibition to some of my friends, but the response was not very enthusiastic. I feel that the response would be even less enthusiastic on the part of the general public for an exhibition dealing with the rebuilding of Berlin—the American public looks upon the destroyed cities of Germany as one of the very few indications of our victory."

CHARLES C. BALDWIN
City Planning Committee of Dahlem
Berlin, Germany

MORE ON CONTROL

For the benefit of those who came in late, the following letters, some from U. S. mayors, formed an important part of the discussion on the pros and cons of architectural censorship by municipal art commissions. Other comment on this subject has appeared monthly in the Letters Department since last June—and the column which started it all off was the Publisher's Letter in the May issue—ED.

Forum:

. . . I guess I'm too much of a lover of freedom to want censorship of any type, but it has always seemed to me that a variety of design in construction and architecture is indicative of the diverse personalties and talents that are part of the people. Uniformity and conformity may be virtues in a well-ordered world, but they surely do not lend themselves to the development of personality and the portrayal of a people's culture.

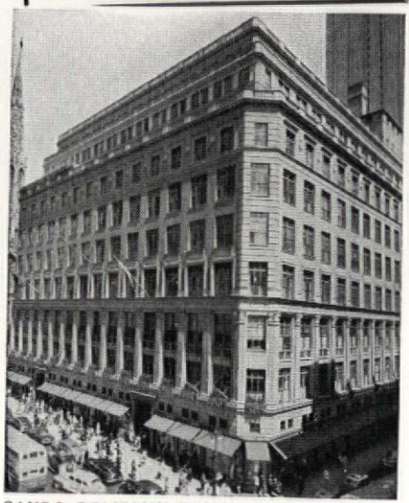
HUBERT H. HUMPHREY, Mayor
City of Minneapolis
Minneapolis, Minn.

Forum:

For myself, I do not agree with your statement that good appointments or bad

(Continued on page 34)

Saks Fifth Avenue, Another Webster Moderator System



SAKS & COMPANY, Fifth Avenue, New York, N.Y. Built 1924. Architect: Starrett and Van Vleck. Heating Contractor for original installation: Gillis and Geoghegan. Heating Modernization 1944 by Contractor Thomas J. Dorsey, Inc.

From the time Saks Fifth Avenue, the "world's most luxurious store", was built in 1924 reliable heating has been provided with a Webster Vacuum Steam Heating System.

In 1944, to cooperate in the wartime fuel conservation program, Saks discontinued their oil burning boiler plant, arranging to use metered steam purchased from the New York Steam Corporation.

To assure minimum steam charges at all times the installation was converted to a Webster Moderator System. Radiator valves were equipped with expertly sized Webster Metering Orifices. Automatic continuous "control-by-the-weather" was provided by the Outdoor Thermostat.

Under the competent operation of the Engineering Department of Saks Fifth Avenue the Moderator System affords comfortable heating regardless of outdoor temperatures. "Operability" of the System is demonstrated by the fact that each year since its installation, economy in steam consumption has increased.

If your heating system is without control, or with inadequate control, we solicit the opportunity to go over your problem with you. Use our experience to help you in your heating management problems.

WARREN WEBSTER & CO., Camden, N. J.
Representatives in principal U. S. Cities : : Est. 1888
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Webster
HEATING SYSTEMS



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george nelson designs

herman miller

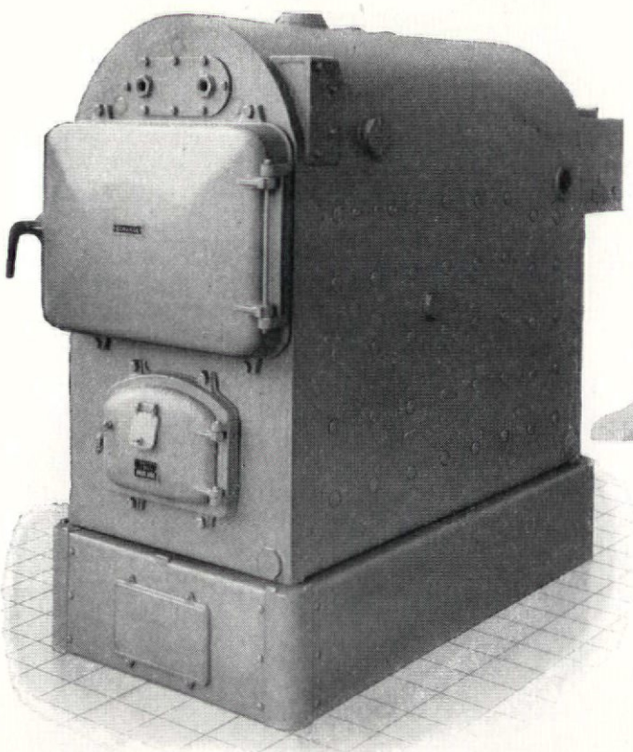
zeeland, michigan

A Dependable Team-Mate

for Oil or Gas Burners or Stokers

KEWANEE

SQUARE-HEAT TYPE R



This Improved Series of steel boilers incorporates all the features which, for seventeen years, have made Kewanee Type R so outstanding. In sizes for 900 to 3000 Sq. Ft. Steam (mechanically fired) or 740 to 2480 hand-fired coal . . . it is just right for dependable and economical heating of medium size buildings.

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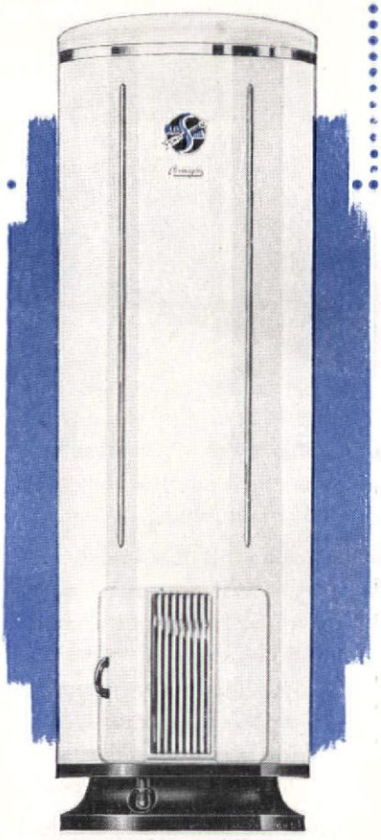
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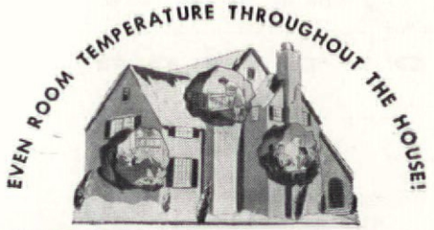
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appointments to such a Board, as your letter suggests, do not matter. You say, "Distinguished men serve with devotion and without compensation but never to the public's long-run gain." I am sure there are many distinguished men who place public above self, and in this I am not being naive.

T. R. LETTS, Office of the Mayor
San Francisco, Calif.

Forum:

Undoubtedly, in a municipality there should be some controls which make certain of the inclusion of basic fundamental construction and zoning features.

Other than that, however, I feel that architects should have every *reasonable* liberty of expression.

Professional rivalry and supervision, unfortunately, can sometimes work ruin in the realization of artistic concepts that might add much to a city. Censoring commissions, therefore, should be appointed only with the utmost of caution.

True, where there is no vision, there must be supervision. Architecture and city planning are fields where vision and imagination are usually at their best. Personally, I favor granting architects every reasonable freedom and encouragement.

EARL J. GLAD, Mayor
Salt Lake City
Salt Lake City, Utah

Forum:

I read with great interest your thought-provoking article on the merits of architectural commissions watching over construction on important thoroughfares.

Our closest approach to this is the Vieux Carre Commission, a body of architects whose function it is to preserve and to restore where possible the original Spanish-French architecture of that section. Our Vieux Carre is of great historic value and its preservation is important from a tourist as well as an esthetic viewpoint.

Until remedial action was taken, this priceless "French Quarter" was being gradually replaced by modern structures totally lacking in distinction and conflicting badly with the grace of the old buildings.

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In such a situation where the task is merely to decide what was the original architecture of a building and to see that

(Continued on page 38)

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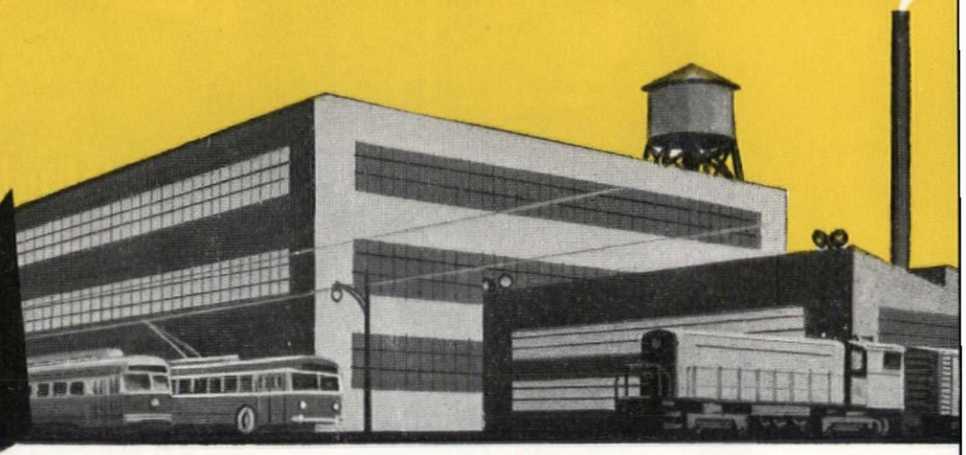
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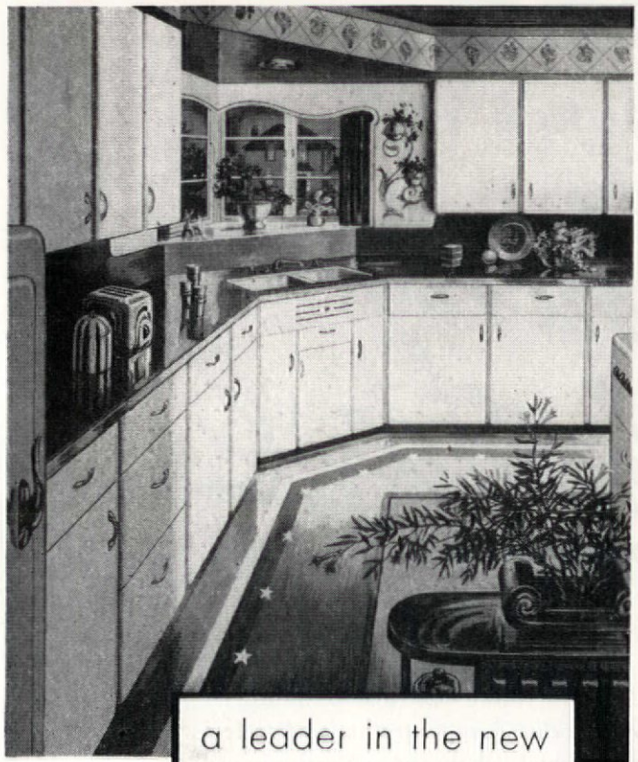
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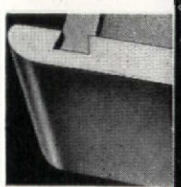
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it is properly restored, I am heartily in favor of an architectural commission.

However, I agree that where standards for current architecture must be set up, the dangers inherent in all censorship will be present; that these standards will tend to resist change and that initiative will be stifled. . . .

DELESSEPS S. MORRISON, Mayor
New Orleans, La.

Forum:

In one of your last issues, a retired old gentleman-architect from the countryside is quoted, who, riding on top of a Fifth Avenue bus, is afraid of some unfounded ornament on the new Best building, next St. Patrick's Cathedral, and murmurs something like, "should be sandblasted."

From this nice old gentleman's dissatisfaction, the writer of the editorial is aroused to the idea of some kind of a necessity of a censorship on architecture, to protect the beauty as well as the representative character of some important places, such as Fifth Avenue.

Now, here is a question I have: Is this ornamental detail on the Best-building really so hurting? Is the architecture of this building as a whole not rather 90 per cent satisfying? And why should we be entitled to expect just architectural masterpieces on Fifth Avenue?

Your nice friend, the old country-gentleman—is he so spoiled by looking always on some Victorian chalets, some small-town Main-Street fronts in his neighborhood? Is this why he is so irritable?

As to my opinion, the Best-building is one of these new buildings, like the new Park Avenue-Fifty-Seventh Street corner building and some more now up-going apartment and office buildings on upper Manhattan's East Side—almost without exception very fine contributions to contemporary New York architecture.

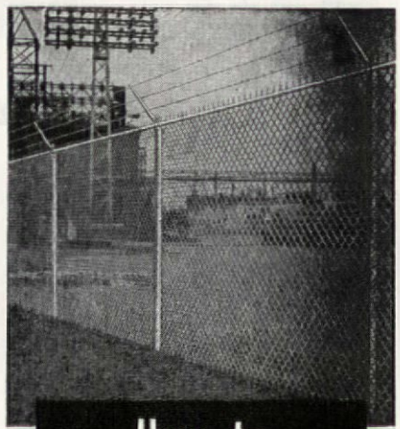
If one thing makes me sad, it is rather the treatment St. Patrick's Cathedral itself got, the sandblasting of its fronts, destroying the first crust of a venerable patina which was already veiling the uninspired treatment of the sculptural stonework.

And besides, what do people think how Fifth Avenue should look? Like or not like the most noble Rue de Rivoli at Paris, like or not like the so noble Portland Square at London, or some of the picturesque Grand Places at Brussels, Tournay, etc?

I think it is true that Fifth Avenue should look like the reception room of New York—like its Salon, in the same sense as Napoleon called La Piazza San Marco at Venice "le salon de l'Europe."

To reach such an aim, to prevent gross

(Continued on page 42)



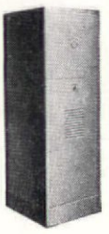
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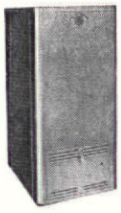
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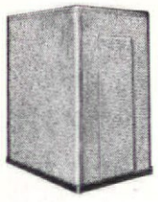
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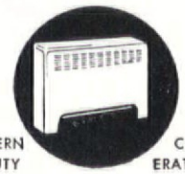
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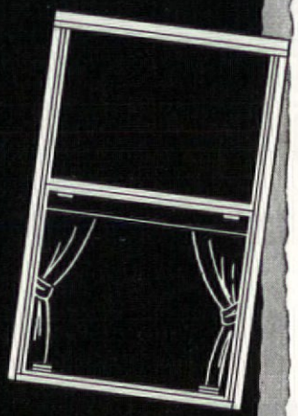
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mistakes, it might be worthwhile to create a committee of censors, a jury of six-seven members, all architects. . . . There is already a case for such a committee. I just saw the central hall of Grand Central railway station. This hall certainly is a dignified landmark, also something like a reception room of New York. With some ten big and clumsy electric-lighted advertising panels, the architectural character, the dignity of the whole room, has been spoiled — for Lastex, Coca-Cola, Chesterfields, Ruppert-beer, Gilbey-gin and the New York State Department of Commerce!

Maybe somebody will say: "Well, what can we do? This is on privately owned property!" But is not Fifth Avenue also privately owned?—And who is taking the blame?

DR. OSKAR WLACH, Architect
New York, N. Y.

Forum:

. . . Virility, Virtue, Vulgarity and even Vignola, are hard to control by censorship. Nobody, you are right, is really crazy about such authoritarianism and nobody impressed, except an occasional tourist looking down the new "Diagonal Norte" in Buenos Aires, where all friezes strictly line up and he cannot find his airline agency because all buildings look alike. . . .

RICHARD J. NEUTRA, Architect
Los Angeles, Calif.

Forum:

. . . It is too bad we have to settle between complete freedom and none. Freedom to commit architectural mayhem is undesirable; the emotional reaction of the romanticist to Greek classicim has a disintegrating quality. And what about the lover of Gothic with its flying buttresses who must work day by day amid "modern" lines and dimensions? Does it prove that one's thinking is more "advanced" or more enlightened if he prefers modern? I do believe that the patterns established by the new buildings in Washington present a more pleasing aspect than unplanned structures, but again the emotional quality is a little different from the shopping center of Fifth Avenue.

. . . if you don't like opera you can settle for Hoagy Carmichael; if you don't like Titian's voluptuous redheads you can turn to a Petty girl. But with architecture, whether you like it or not, you cannot escape it; it will become or is a daily irritant or a constant joy—just like a wife. I guess what I'm trying to say is that I'm in favor of not restricting the architecture of our

(Continued on page 46)

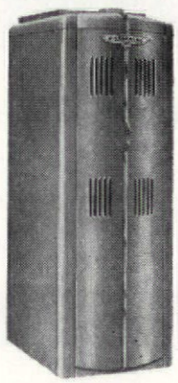
Floor space is USABLE SPACE when you plan for

Palmaire GAS
HEATING UNITS

No basement, no fuel space, no utility room need be included in the floor plan of the building to be heated with Palmaire equipment.

The streamlined Palmaire forced air furnace, especially designed for the average (5 to 7 room) home, occupies only 18″ x 28″ of floor space; fits into a small closet or corner.

The Palmaire suspended unit heater, ideal for stores, restaurants, factories and other business buildings, hangs from the ceiling; uses no floor space.



38 Years of Air Conditioning Leadership

For homes: more living area, more comfort, less work with Palmaire forced air furnaces.



For business buildings: more efficiency from employees, more profit per square foot, lower maintenance cost with Palmaire suspended unit heaters.

Palmaire gas furnaces provide the clean, economical, trouble-free heat demanded by your clients today.

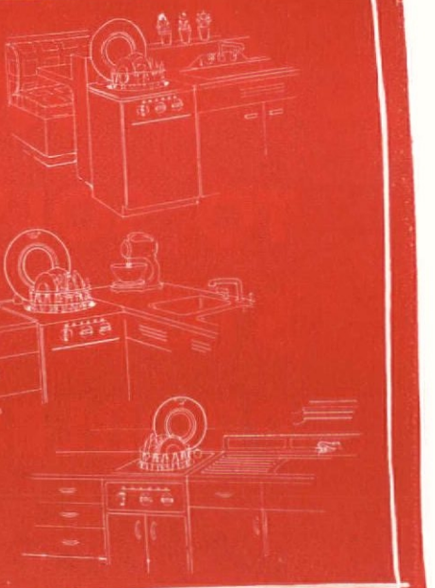
Write for free literature
Dept. A F 1

Palmer Manufacturing Corp.
2200 W. Fillmore St.
Phoenix, Arizona

· BELONGS · IN · YOUR · PLANS ·

KAISER

THE AMAZING NEW 5-MINUTE DISHWASHER





NO MOTOR!
POWERED BY WATER ONLY!

No matter what size or shape kitchen you lay out — no matter what your building budget — there's a place and a *reason* for including the amazing new Kaiser Dishwasher.

Easily adaptable — De Luxe and Standard cabinet and build-in units. Cabinets fit any 2-ft. square. And the build-ins are readily adaptable to any architectural treatment.

Simply "plumbed in" — with only 2 connections: one to hot water, one to drain. No motor; uses no electricity.

Powered by water — the natural pressure in the kitchen hot water pipe. Minimum 40 pounds pressure required.

Sanitary — one-piece seamless washing basin has no corners or cracks to collect food. Odorless. Cleans itself.

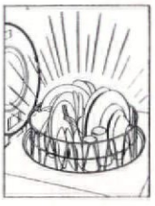
Built for service — lightweight, rustproof aluminum. Cabinets and exterior panels finished in baked white enamel, chrome-plated fittings.

Available immediately — when you specify "Kaiser" you get delivery *now*.

4 Models
4 Prices
FROM $139.50

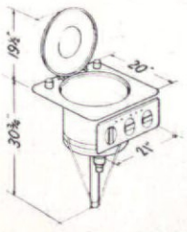


CLOUDBURST WASHING
Scientifically placed, recirculating venturi jets increase actual water circulation four times primary volume. Silent. No vibration.



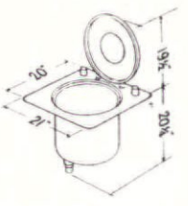
SAFETY BASKET
Precision-balanced—the Kaiser "safety basket" revolves smoothly to pre-rinse, wash and dry dishes sparkling clean.





DE LUXE BUILD-IN
Controls mounted on panel across front of machine. Includes hydraulic lift to raise and lower basket, two syphon breakers.





STANDARD BUILD-IN
Controls centered in knob, left rear corner. Syphon breaker built in. Either model may be installed at any height from floor.

Kaiser Fleetwings Sales Corporation
General Sales Office
1924 Broadway, Oakland 12, California

Please send me A.I.A. file sheet on the new Kaiser Dishwasher. I am an architect ☐. I am a contractor ☐.

Name and Title _____

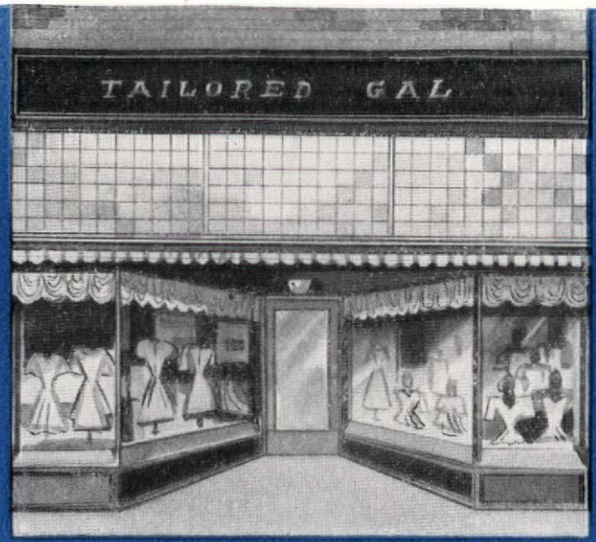
Firm Name _____

Street _____

City _____ *Zone* _____ *State* _____

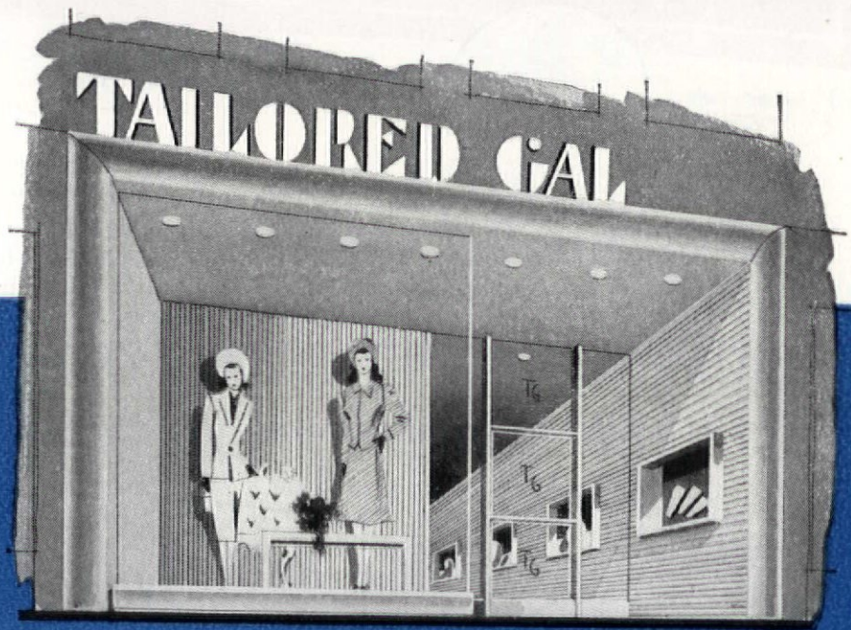
AF-10-47

4 WAYS TO SOLVE THIS STORE FRONT PROBLEM

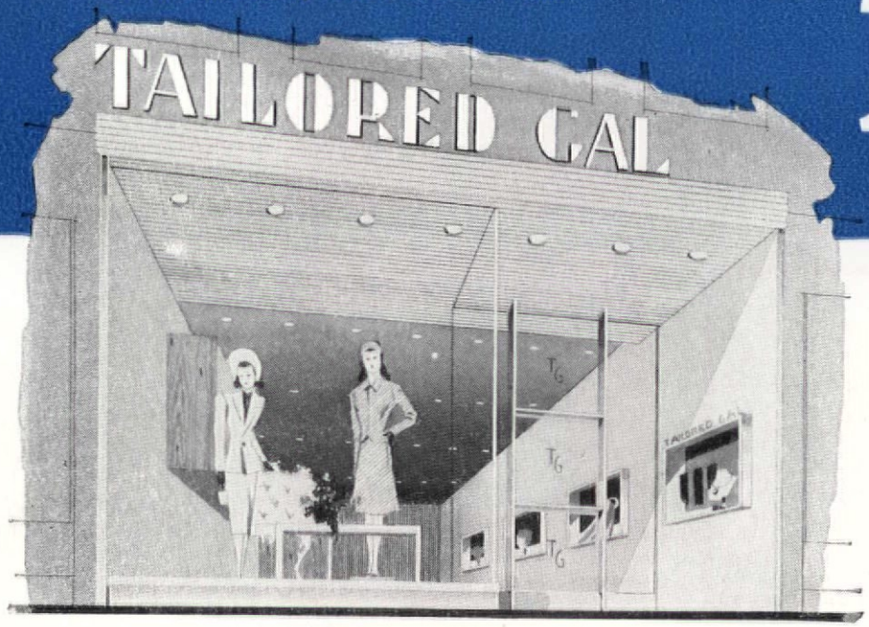


Out-of-Date Appearance
Poor Display Facilities
Inadequate Identification

These 4 designs from the same floor plan show how Kawneer's wide variety of materials offers unequaled flexibility in designing

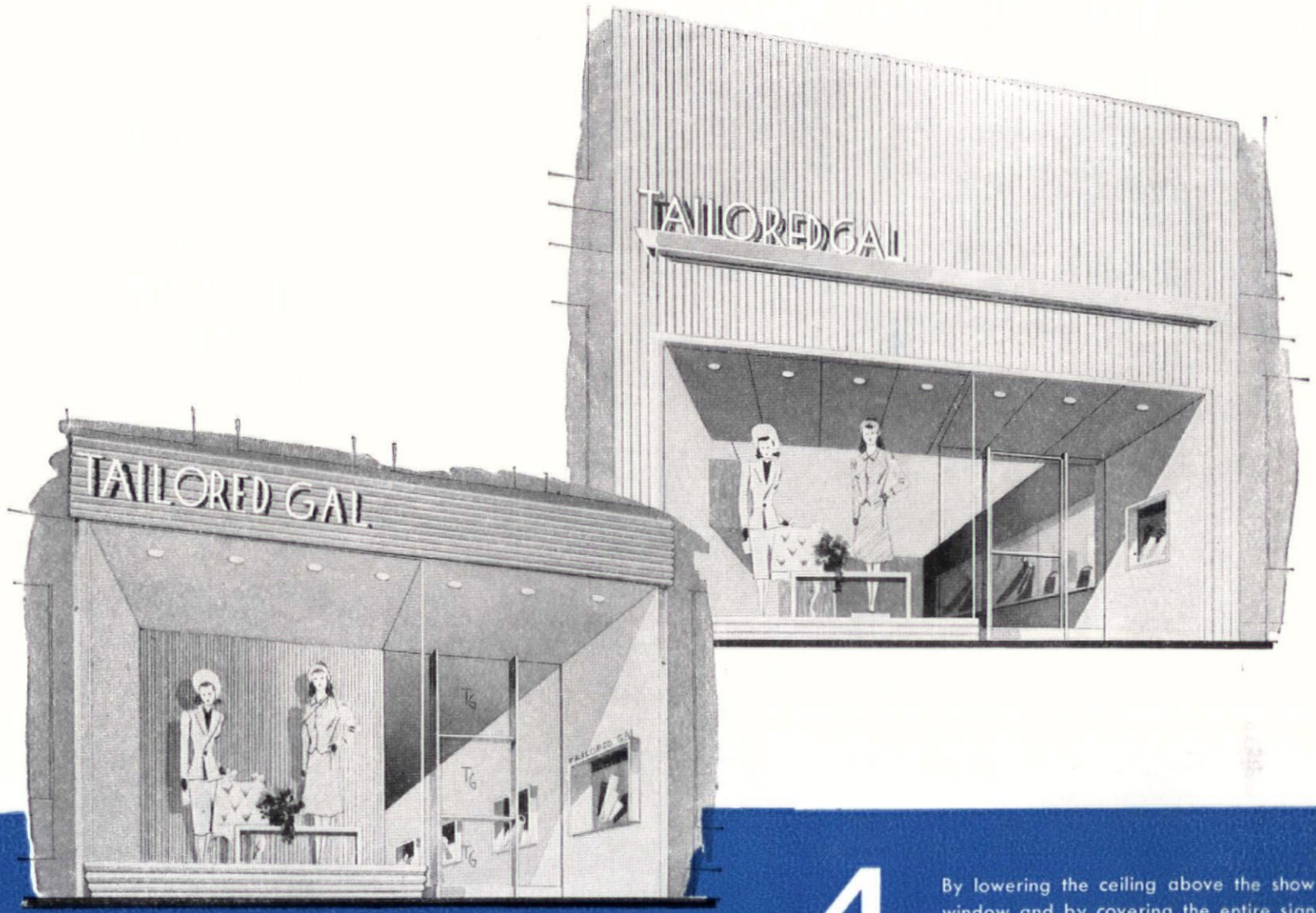


1 All four of these stores feature an inviting vestibule, a Kawneer Full-Vision Door, and a row of shadow-boxes which direct eyes and feet inside. The clean-lined design below uses aluminum Zourite to face the ceiling above the show window.



2 The above store has the unified appearance and display value of a big framed shadow-box. This effect has been gained by framing the top and sides of the front with the same stock convex member. The right wall has been covered with Zourite.

These four stores were designed by Ketchum, Giná, and Sharp, Architects, New York City



3 Here the dramatic appeal of a theatre stage sets off the mannequins. The reeded shape which covers the awning box is repeated as sign backing. The member which faces the bulkhead was used as an awning box cover in Design No. One.

4 By lowering the ceiling above the show window and by covering the entire sign area with Zourite, this design puts strong emphasis on the front's advertising power. The awning hood acts as a ledge for the sign and further stresses the shop's name.

YOU GAIN NEW FREEDOM IN DESIGNING WITH KAWNEER STORE FRONT MATERIALS

Modern store designing is a challenge for new ideas—and Kawneer materials make these ideas practical by offering a complete range in members and assemblies which answer every store front requirement.

Each of the four store fronts above does an outstanding selling job. Each attracts customers, shows them merchandise, and then pulls them inside to buy.

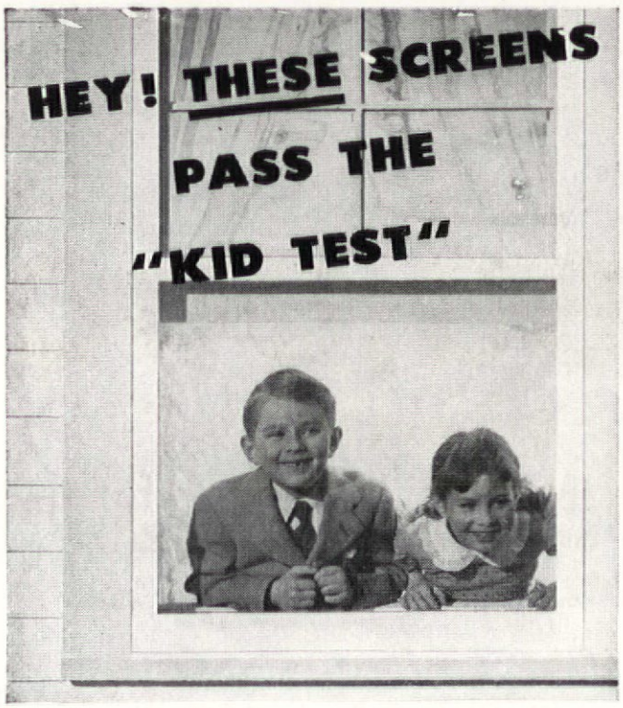
Yet different interpretations of the problem and the varied use of Kawneer metals result in four unique designs.

With Kawneer materials you can make full use of floor-to-ceiling lights of glass, flush glazing, full vision doors, and many other striking elements of modern design. You can create a limitless variety of store fronts because these materials have been styled and engineered to meet the demands of contemporary architecture.

Write for the booklets which detail, describe and picture the K-47 line, Zourite, and Kawneer entrances. Send requests to The Kawneer Company, 772 N. Front St., Niles, Mich. Factories are located at the above address and at 903 Dwight Way, Berkeley, California.

Kawneer
SALES-BUILDING STORE-FRONTS

LETTERS



• Playful, active children are just one of many hazards that threaten the screens you specify in your houses. The ability to "take" such childish abuse is just one of many advantages of LUMITE Quality Insect Screen Cloth.

Laboratory tests made by an independent research organization confirm LUMITE'S superiority to all types of commercially available screening. Here are 3 quick reasons why you can specify LUMITE, woven of Dow's Saran, with complete confidence:

STRONGER BY TEST
A 5-pound weight couldn't dent LUMITE in 42,300 blows. With filament diameter of .015 LUMITE has greater impact strength than metal.

WILL NOT STAIN OR RUST
Guaranteed never to "bleed" or "run"—never to stain sills or sidewalls. Absolutely cannot rust or corrode in any weather or climate.

NEVER NEEDS PAINTING
Requires no painting or protective coating of any kind. Will not "rust out"—will never change color. Keeps its "sheen"; stays clean . . . a lasting asset in any house.

SPECIFY LUMITE SCREENING FOR YOUR CLIENTS
Sold through Hardware and Lumber Dealers and Screen Manufacturers

LUMITE*

QUALITY INSECT SCREEN CLOTH

*Registered trade-mark

LUMITE DIVISION
Chicopee Manufacturing Corporation, 47 Worth St., New York13

American cities but rather establishing an architectural divorce court that could act speedily when too many citizen pyschoses develop. . . .

E. W. BLUM, Executive Director
Housing Authority of Houston
Houston, Texas

Forum:

I am in hearty agreement with the content and spirit of the article, and had many a chuckle as I read it. In my time I have been faced with and heckled by many a board of censors—"architectural boards" which preserved the purity of mediocrity in subdivisions, "city planning boards" made up of the mayor, chief of police, and local real estate agent, etc., etc. These are, of course, at the low point of self-righteous bigots (hard words, but true), empowered to dictate their prejudices on matters they do not understand.

At the high (?) point, we have the City Planning Commission of San Francisco, or Oakland. There are excellent men on these boards, doing an excellent job of city planning, and having the good sense to concern themselves only with that subject. It is unfortunate that these two cities are the exceptions around here. (San Francisco now has some lovely plans—some day we may even do something with them.)

As to censors or critics in general, it comes down to this: "Whose opinion do I really respect?" I have remarked many times that the sincere architect must have a very thick skin indeed, and work to please himself only. Recognition in architecture can be achieved only in this way, and those who realize it are a handful of men in the profession and a handful of men who direct the policies and content of our excellent professional journals. Who else? Nobody.

The University of California, despite a storm of intelligent and organized protest from professional men, allowed the housing of the Cyclotron in a Medieval building. At least tacit approval of the faculty of the Architectural School must be inferred.

So, all in all, who really gives a damn anyway, aside from the handful above? In a way, it would be a good thing if we had critics on a par with the theatrical world. It has been tried, notably in New York, but the "critics" were hardly qualified.

This is a somewhat rambling effort, but expresses very well my rather sour reactions to the usual architectural criticism. If we are to listen, the result would be uniformity —of mediocrity.

JOHN EKIN DINWIDDIE, Architect
San Francisco, Calif.

IN-SINK-ERATOR
AUTOMATIC GARBAGE DISPOSER

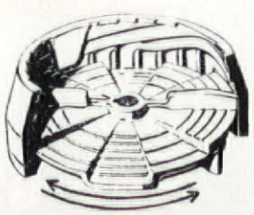
ALWAYS ONE JUMP AHEAD!



With

THESE OUTSTANDING FEATURES

• **REVERSIBLE ACTING ROTOR SHREDDER**



• **TWO - DIRECTIONAL SHREDDING ELEMENTS**
• **GLEAMING WHITE FINISH**
• **STREAMLINED, COMPACT DESIGN**

Add to all these a distribution set-up that pleases the man who makes the installation — the plumber — and you've got a garbage grinder you will own with pride, specify with confidence

Specializing Exclusively in the Manufacture of Automatic Garbage Disposers Since 1938

IN•SINK•ERATOR
MANUFACTURING CO. RACINE, WIS.

ARCHITECTS . . BUILDERS . .

3,800,000

DOWN TO

52,500 Btu AT BONNET

THE J & C LINE*

MODEL	Btu @ BONNET
G2-70	52,500
OL3-85	85,000
G5-130	104,000
AL590	106,000
MF15	120,000
CO150	150,000
CO195	195,000
MF30	240,000
MF48	350,000
MF63	500,000
MF1000	800,000
CC2500	2,000,000
CC4750	3,800,000

*Above are representative models in the J & C line that includes more than 100 types and sizes.

AMERICA'S LARGEST

. . . and most complete warm air heating line . . . J & C makes heating specification **easy.**

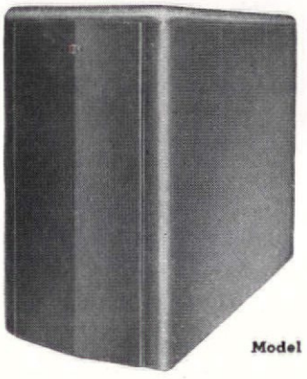
J & C with over 100 models for your favorite fuel . . . . insures against geographic or local fuel shortages and "sets-up" a quick reference for matching outputs with . . . . new home . . modernization . . . or larger building . . . . **heating requirements.**

J & C's . . . **PoweRated** series is designed TO-FIT-THE-JOB . . . **provide specified Btu output** to meet BIG REQUIREMENTS, and is **ideal for drying and processing.**

WHEN YOU SPECIFY

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THERE IS NO SUBSTITUTE



Model 1925E

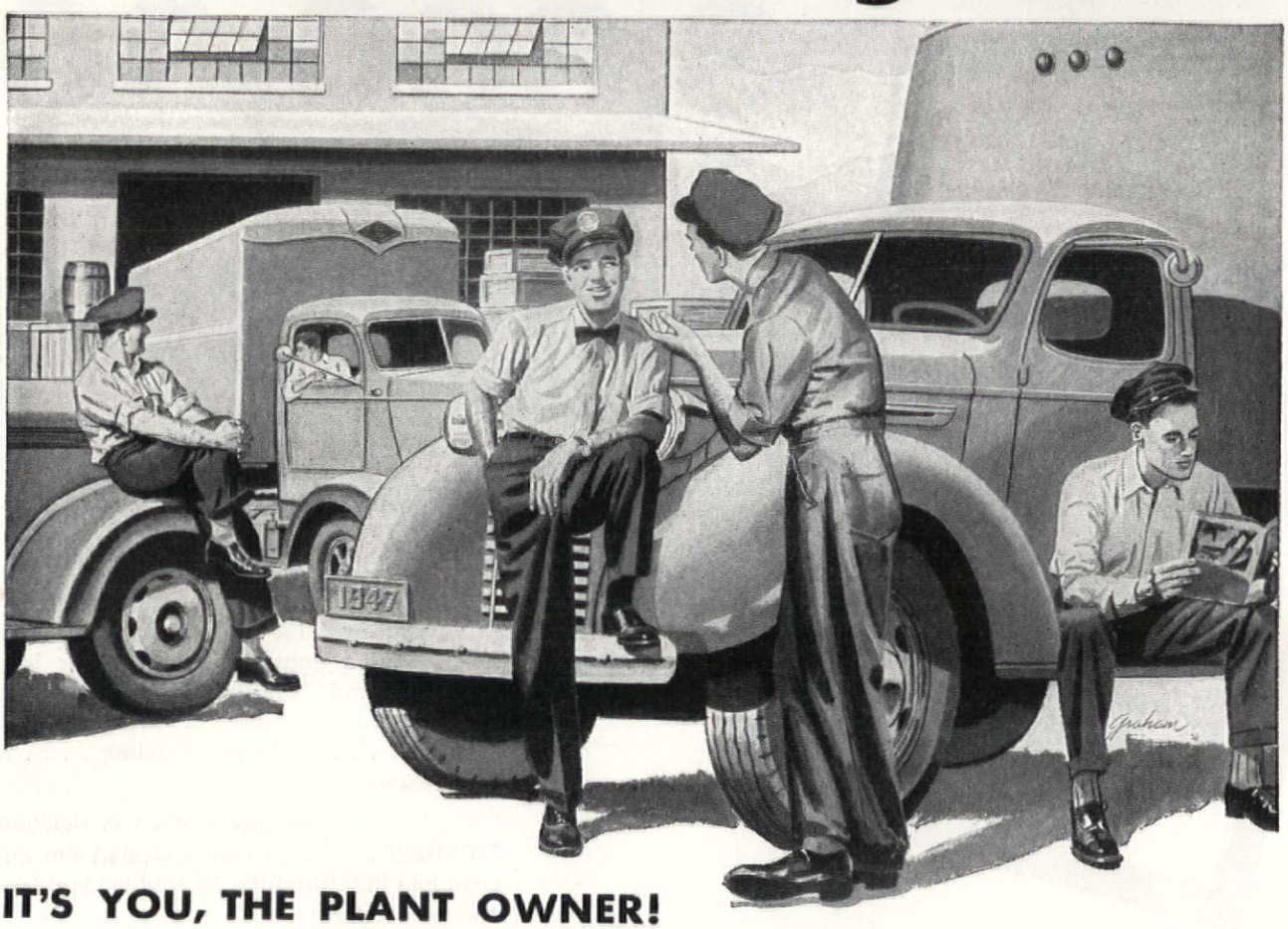
A PRODUCT OF J&C

JACKSON & CHURCH COMPANY, SAGINAW, MICHIGAN

MEMBER NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION — INDOOR COMFORT

WORK WELL DONE SINCE '81

Who REALLY PAYS for waiting time?



IT'S YOU, THE PLANT OWNER!

Poor loading facilities are wasteful, costly . . .
prompt action can save you money for years to come!

Many plant operators spend vast sums of money on product development . . . new machinery . . . big advertising programs. They think nothing of scrapping antiquated production methods for the new. But, too often, they neglect that important "tool" of plant efficiency—*shipping and receiving facilities.*

Slow movement of goods, in or out of your plant, is costly. Wasteful. Trucks need adequate platforms—room to move around.

REMODELING MAY BE THE ANSWER

Your traffic manager, saddled with the burden of moving goods on closely timed schedules, may be trying to accomplish an impossible job . . . a job which calls for help.

In many cases, slight remodeling will do the job. If the task calls for major improvements . . . remember, your *traffic manager and architect* have the answers!

Drastic savings in both TIME and MONEY are the result of careful planning—and will pay off for years to come. Let these men show you how to provide for streamlined loading facilities WHEN you remodel—or BEFORE you build!

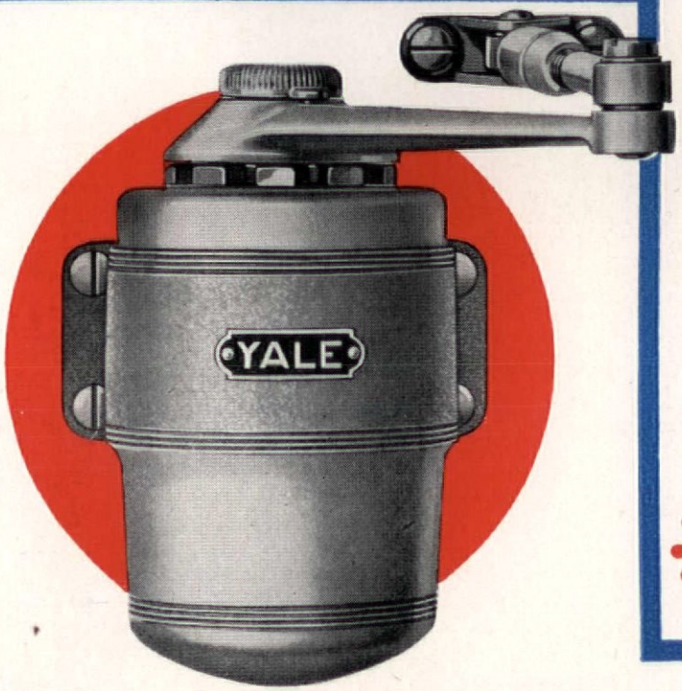
PLEDGED TO COURTESY and SAFETY

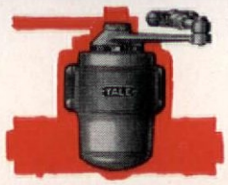
THE AMERICAN TRUCKING INDUSTRY
AMERICAN TRUCKING ASSOCIATIONS, WASHINGTON 6, D. C.

GOODS CAN'T MOVE FASTER THAN THEY'RE LOADED!


ACTION
IT SHOWN
M
NOW...A DOOR CAN BE
Beautiful
THE YALE & TOWNE
MANUFACTURING CO.
YALE
F
SEAL PLATE PIN
VALVE BLOCK
STOP PIN
J
K
O

Announcing THE WORLD'S MOST BEAUTIFUL AND PRACTICAL DOOR CLOSER





Now your doors can actually turn out to *be* as beautiful as you plan them—with the slim, trim Yale Compact Door Closer.

Ever since doors have been closed mechanically . . . architects and designers have despaired of door closer appearance. Even the best-designed doorway looks sick when a door closer with "*Bulkitis**" is installed.

But now a completely new design — achieved by Yale engineers — makes possible the combination of perfect door control and modern appearance. It's the Yale Compact Door Closer . . . small, graceful, bulge-less . . . but eminently practical.

Architects, designers and building operators who have seen it agree that the Yale Compact Door Closer is the world's most beautiful and practical door closer!

And it costs no more than other door closers with "*Bulkitis*!"

* *Bulkitis:* the ailment which makes most door closers unattractive; symptoms are excess bulk, clumsy bulges

YALE COMPACT DOOR CLOSER

MORE BEAUTY SMALLER SIZE SMOOTHER ACTION SAME PRICE

36% LESS BULK THAN PREVIOUS MODELS—WITHOUT BULGES

ROTARY PISTON CHECKING PERMITS COMPACT DESIGN

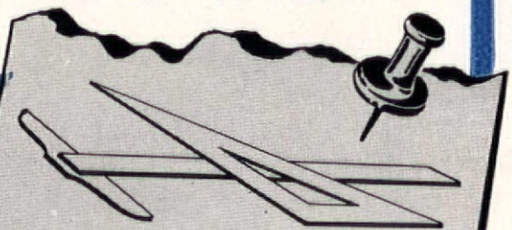
This is the operating principle that makes possible an equally powerful yet 36% smaller door closer, without bulgy "hips". The operating structure is exclusively Yale's!

The powerful flat ribbon spring, aided by the leverage of the arms, automatically closes the door. The rotary piston, turning on the axis of the shaft against the checking liquid, controls the door throughout the full closing swing. Closing speed is regulated by controlling the flow of liquid through valve ports from the high pressure side to the low pressure side.

Rotary checking means smoother action, less strain, less friction. The checking is a circular stroke, distributing stress evenly, absorbing the motion and eliminating impact. There is no abrupt side thrust as in rack-and-pinion or crankshaft designs. Strain has been eliminated to the extent that a thin main arm has replaced the usual heavy main arm.

Thorough tests prove that the Yale Compact Door Closer achieves new standards in performance —

- Fully controlled closing
- 2-speed adjustment
- Noiseless operation
- Easy installation
- Easy reversal
- Easy adjustment
- Minimum upkeep
- Leak-proof
- "Seal-cast" shell
- Long life
- Famous Yale workmanship
- Same price



ARCHITECTS CONGRATULATE YALE & TOWNE

Like movie producers, we held "previews" . . . showing the Yale Compact Door Closer to leading architects, designers, contractors and building managers. Reactions were enthusiastic, and many of the architects said, "This is the door closer we'll specify from now on!"

Here are some typical reactions:

Chicago Architect:
"We'll insist upon it!"

N. Y. Architect:
"This has everything."

Buffalo Contractor:
"A great improvement — when will it be ready?"

Los Angeles Architect:
"We will specify this . . . in preference to all others."

Detroit Chain Store Designer:
". . . Often wished door closers were better-looking. I like this very much."

QUALITY CHECKING CHART SHOWS THAT YALE COMPACT DOOR CLOSER SCORES 17 OUT OF 17 IMPORTANT POINTS OF COMPARISON

DOOR CLOSER QUALITY CHECKING CHART

12 Leading Makes of Closers and —

CHECK FOR THESE FEATURES	A	B	C	D	E	F	G	H	I	J	K	L	YALE COMPACT DOOR CLOSER
ATTRACTIVE APPEARANCE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — MODERN STYLING, NO BULK OR BULGES
FULL 180° CHECKING ACTION	YES	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES — COMPLETE CONTROL OF CLOSING SWING
PASS FEDERAL SPECIFICATIONS	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES — TYPES 3000, 3001, 3002 AND 3003
APPROVED BY UNDERWRITERS' LABS.	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	NO	YES	YES — FOR CLASS "A" FIRE-SCREEN DOORS
LEAK-PROOF	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — NO THREADED JOINTS IN COMPRESSION CHAMBER
SMOOTH, FLEXIBLE POWER	YES	NO	NO	YES	NO	YES	NO	YES	NO	YES	NO	NO	YES — FINEST QUALITY FLAT RIBBON SPRING MEANS LONGER LIFE
LONG-LASTING QUIET OPERATION	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — SELF-LUBRICATING BRONZE ARM BEARINGS
3 CLOSING ACTIONS	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	NO	YES	YES — UNIFORM CHECKING, SILENT OR "RELEASE" ACTION AT LATCH
PRECISION CONSTRUCTION	YES	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	YES	YES — NEW METHODS, HIGHEST STANDARDS, PARTS INTERCHANGE 100%
HIGH NET OPERATING EFFICIENCY	YES	NO	NO	YES	NO	NO	NO	YES	NO	YES	NO	YES	YES — MORE CLOSING POWER, LESS OPENING RESISTANCE
SEEP-PROOF SHELL	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	YES — CLOSE-GRAINED, NON-POROUS: NO DIRTY BLACK "WHISKERS"
FREEDOM FROM IRREGULAR ACTION DUE TO WORN PARTS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — ROTARY PISTON SUPPLANTS RECIPROCAL PISTON
EASY TO INSTALL	YES	YES	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES	YES — PACKED WITH TEMPLATE-DIRECTIONS, ANYONE CAN APPLY
PROTECTED ADJUSTMENT	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — REMOVING THUMB CAP MAKES VALVE "KEY" TYPE, TAMPER-PROOF
EASILY REVERSIBLE	NO	YES	YES	NO	YES	NO	YES	NO	YES	NO	YES	YES	YES — NO TOOLS NEEDED, ACCURATELY MADE PARTS— "HAND" QUICKLY CHANGED IF NECESSARY
ADAPTABILITY	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — INTERCHANGEABLE STEEL ATTACHING FOOT, CAN MATCH PREVIOUS DRILLING
STREAMLINED BRACKETS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES — ATTRACTIVELY STYLED TO MATCH CLOSER, ATTACHING FOOT OMITTED



No Other Door Closer Even Approaches the Yale Compact Door Closer in Beauty, Smoothness and Economy of Operation

And You Pay No More for the Yale Compact Door Closer than for Pre-War Models with Bulkitis!

Beauty at the Brackets

Soffit and Corner Brackets for opposite-to-hinge-side application are newly designed to match the beauty of the Yale Compact Door Closer. Back plate omitted in bracket installation. Here again, the modern lines and the absence of bulk greatly improve doorway appearance.

SEND COUPON — NOW — FOR FREE ARCHITECTS' DATA SHEETS AND CATALOG ON YALE COMPACT DOOR CLOSER

THE YALE & TOWNE MFG. CO. TRADE YALE MARK
Stamford, Connecticut.

Please send me Free Data Sheets and Catalog on Yale Compact Door Closers.

Name .....

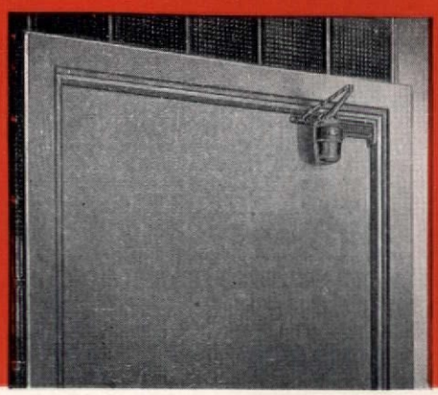
Company .....

Address .....

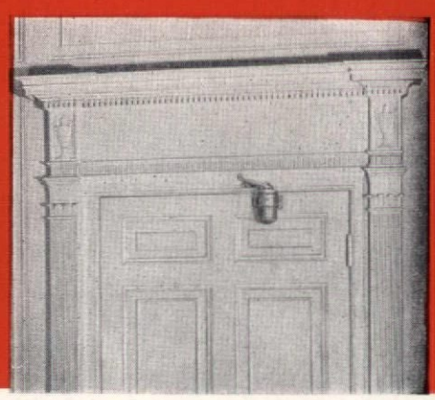
THE DOORWAY OF THE FUTURE IS HERE TODAY!

Ugliness Disappears from the "Door Closer Corner"— Here is New Beauty with the Yale Compact Door Closer

And Building Owners Will Find New Efficiency . . . Longer Door Closer Life!

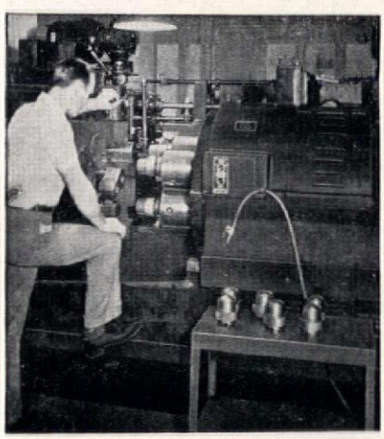






NEW EQUIPMENT FOR MORE ACCURATE MANUFACTURING

In order to produce the many mechanical improvements which distinguish this new door closer, Yale & Towne employs the most modern kind of equipment in its foundry and door closer plant — new patterns, lathes, boring machines, automatic grinders, drill presses, gauges, etc.



Shown above is a multiple-spindle machine weighing 26,000 lbs. It produces pistons weighing only 2½ oz., seal-plates weighing 4 oz. — to extremely close tolerances.

NEW STANDARDS OF WORKMANSHIP MEAN BETTER DOOR CLOSING

These characteristics of Yale workmanship promise smoother action, much longer life:

A. Concentricity of all machining.

B. Two or more hair-line precision measurements on shaft, piston, valve block, seal-plate and cylinder.

C. Perfect finishing of these parts.



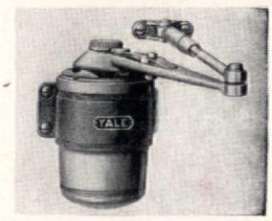
Shown above is an electromagnetic limit gauge of the type used in making airplane engine parts.

TESTING PROVES VALUE OF IMPROVED DESIGNS

A million opening-and-closing cycles (a lifetime of normal use) — with a force applied sufficient to keep the closer hot — failed to disclose any weakness . . . no leakage and no structural defects.

Hundreds of practical applications in the field have already proved the perfection of the Yale Compact Door Closer.

HOLD-OPEN DEVICE



Positive holder device (optional at slightly higher price) keeps the door at any predetermined position until released by push or pull. Operates smoothly without danger of breakage and without strain on closer and butts. Hardened steel roller bearing in plunger rolls easily in and out of holding lug. Hold-open position easily adjusted.

SPECIFICATIONS

No.	*Types of Doors*	*Max. Size of Doors*
91	Ordinary screen doors	1⅛″ x 2′6″ x 6′6″
	Light interior doors	
92	Heavy screen doors	1⅜″ x 3′0″ x 7′0″
	Light interior doors	1⅜″ x 2′8″ x 7′0″
	Closet doors	1¾″ x 2′8″ x 7′0″
93	Light exterior doors	1¾″ x 2′6″ x 7′0″
	Corridor or office doors, either wood or metal	1¾″ x 3′4″ x 7′0″
94	Ordinary exterior doors	2¼″ x 3′0″ x 7′6″
	Heavy interior doors, either wood or metal	2¼″ x 4′0″ x 7′6″
95	Heavy exterior doors	3″ x 3′6″ x 7′6″
	Heavy interior doors subject to strong drafts	

Finishes: Standard finish is Brown Lacquer. Gold or Silver Bronze, Dead Black, or Prime Coat for painting, to special order at no extra charge. Plated and special sprayed finishes available at slightly higher prices.

Printed in U. S. A.

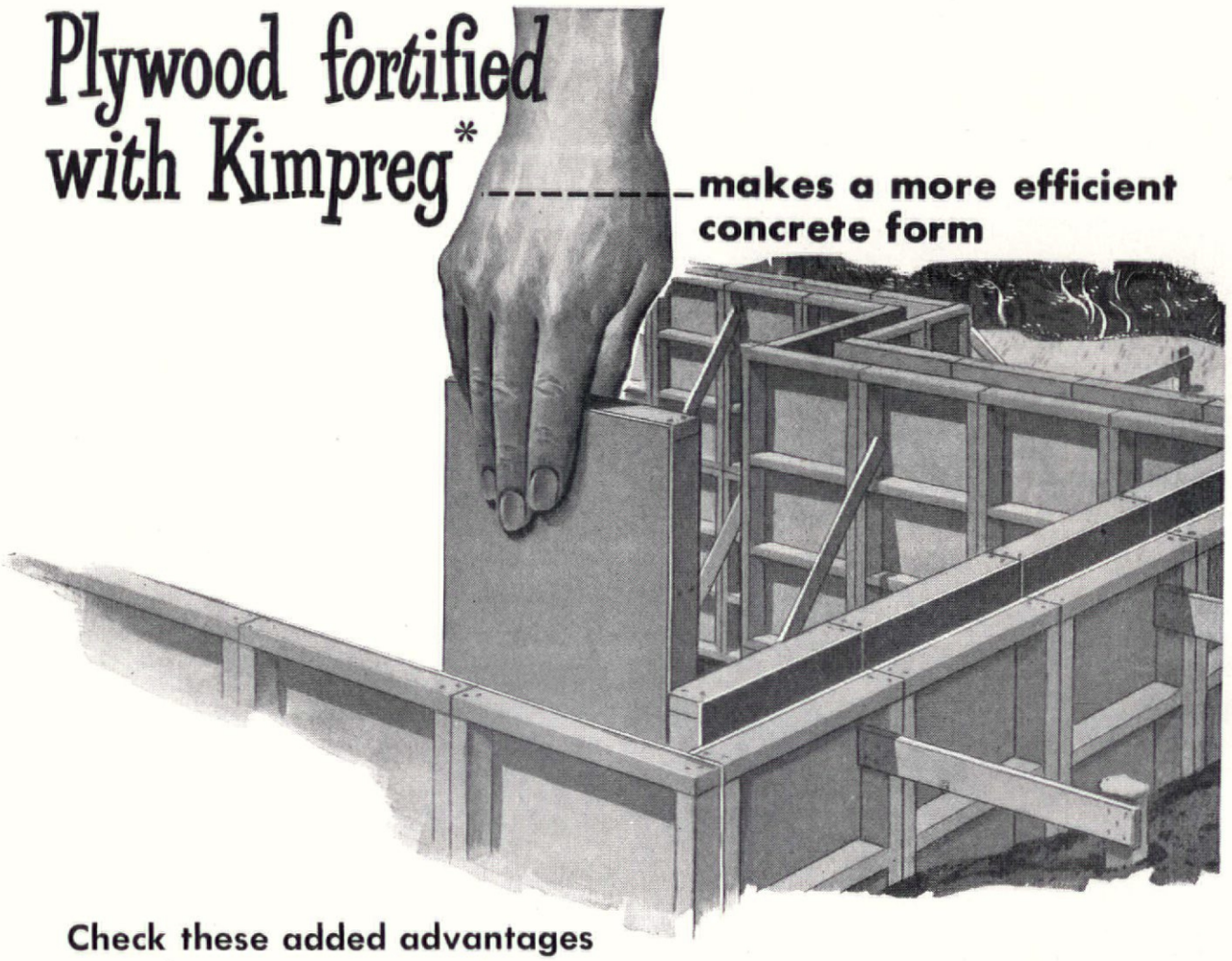
YALE COMPACT DOOR CLOSER

THE YALE & TOWNE MANUFACTURING COMPANY, Stamford, Conn.

Makers of the Famous Yale Line of Locks and Hardware

Plywood fortified with Kimpreg*

makes a more efficient concrete form



Check these added advantages only KIMPREG + Plywood gives

Doubles the life of the concrete form.

KIMPREG* plastic surfacing is a flint-like armor fused to plywood in manufacture. Carefully applied to plywood under heat and pressure, KIMPREG creates a dense, hard surface that's water and weather resistant.

Has far greater abrasion resistance than ordinary plywood.

The wet abrasion resistance of KIMPREG + plywood is 33 times better than standard fir plywood.

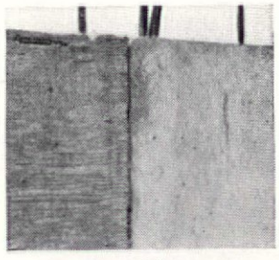
Throughout the country—in scores of construction jobs—it has proved an efficient, economical performer. Handled with reasonable care, KIMPREG-surfaced panels can be re-used 100 times and more.

Reduces maintenance cost 50%

Plywood panels surfaced with KIMPREG strip easier, clean faster, require less oil and less oiling labor. Light in weight and durable, they are easily moved at minimum expense.

Produces a surface smoothness equal to that of steel forms.

KIMPREG-surfaced plywood is an exterior grade plywood. Its phenolic resin surface is scientifically designed to provide a smoother, longer-lasting face for concrete forms. Non-adhesive, concrete does not stick as it does to ordinary forms. KIMPREG-surfaced plywood cuts rubbing-down costs as much as 75%.



See the difference

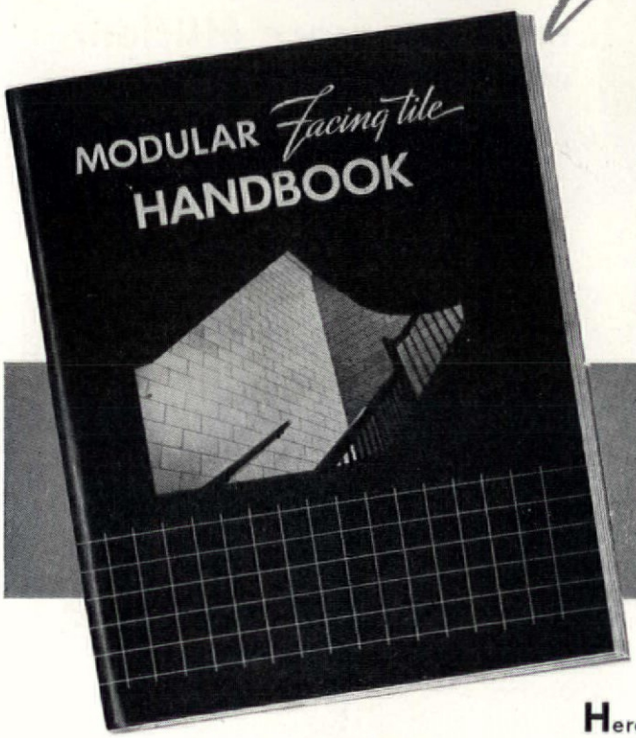
Concrete on left was poured against ordinary plywood. Note the rough surface. A KIMPREG-surfaced plywood form produced the smooth-looking concrete on the right.

Kimpreg
REG. U.S. PAT. OFF.
PLASTIC SURFACING

A PRODUCT OF Kimberly Clark RESEARCH

*Trademark Reg. U.S. Pat. Off.

NEW—MODULAR *Facing tile* HANDBOOK



FREE—TO REGISTERED ARCHITECTS AND ENGINEERS

AVAILABLE—TO ALL OTHERS FOR FIFTY CENTS

THIS 90-PAGE HANDBOOK IS THE FACING TILE INSTITUTE'S PRESENTATION OF MODULAR FACING TILE TO THE ARCHITECTURAL PROFESSION

Here is a handbook of great value to architects, engineers, builders, masonry contractors and others interested in using Structural Clay Facing Tile in modern design and construction.

Standard modular sizes are now available for Structural Facing Tile. As a ready source of information on Modular Facing Tile, the Facing Tile Handbook presents in three sections: (1) specifications, available colors, fire resistive ratings (2) detailed illustrations of various sizes and shapes (3) suggested assembly details and layout procedures.

With modular coordination of building materials and equipment becoming increasingly important, you should find frequent use for this up-to-the-minute information. Send for your copy — NOW.

Registered architects and engineers may get a FREE copy by filling out and mailing the attached coupon pinned to their letterhead. All others send the coupon and 50 cents.

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GENTLEMEN:

Please send me your new MODULAR FACING TILE HANDBOOK
I enclose 50 cents with this coupon. ☐

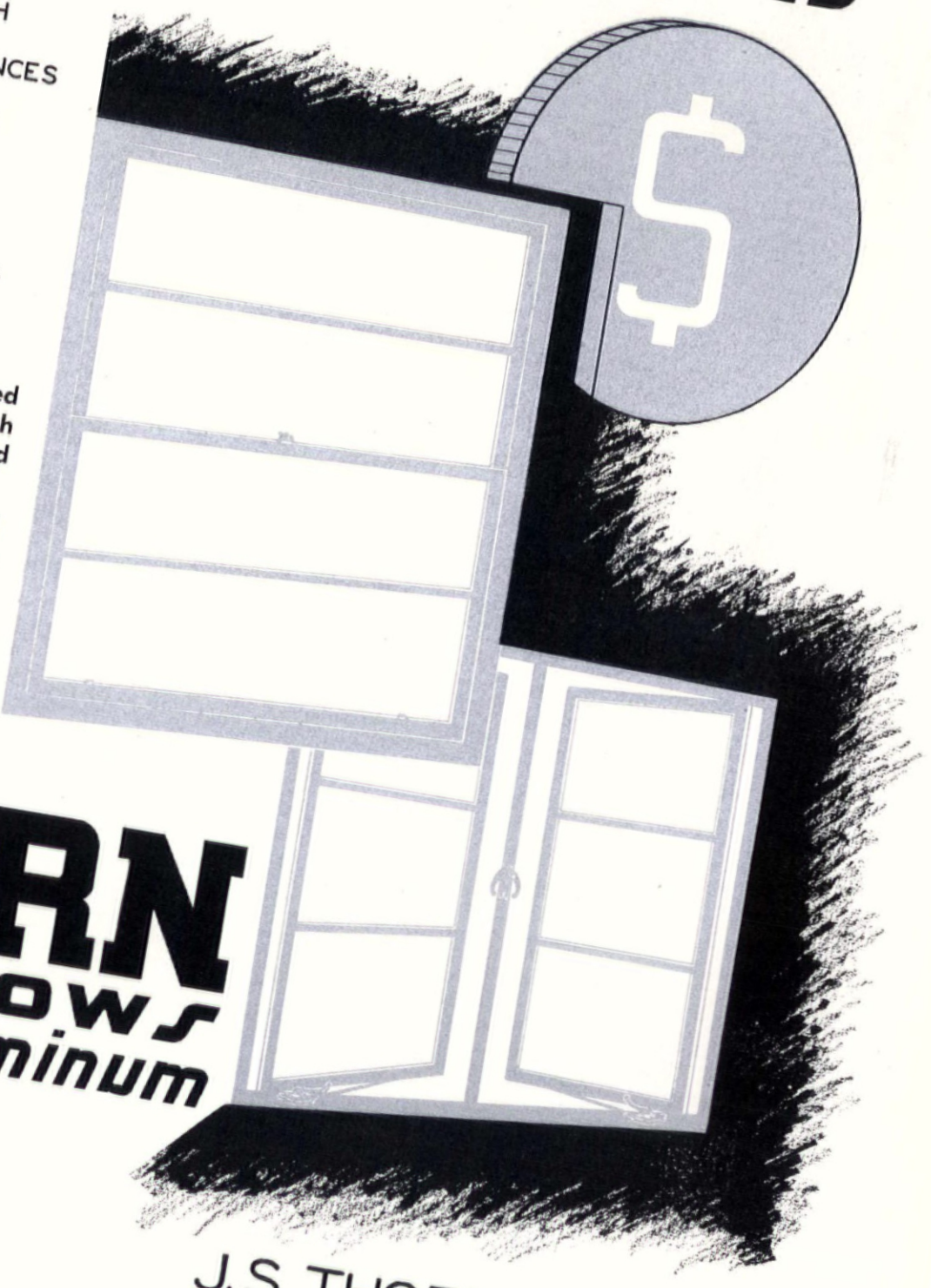
NAME PROFESSION

STREET CITY STATE

TAKE A SLICE OUT OF WINDOW COSTS

COST OF ORDINARY WINDOWS

- FRAME AND SASH
- WEIGHTS — BALANCES
- LIFTS AND LOCKS
- ASSEMBLING
- FITTING
- WEATHERSTRIPPING
- PRIME PAINTING



Thorn Windows are delivered as complete units with sash hung in frames, adjusted and ready for glazing.

Double-hung Windows have all hardware and bronze weather-stripping factory applied.

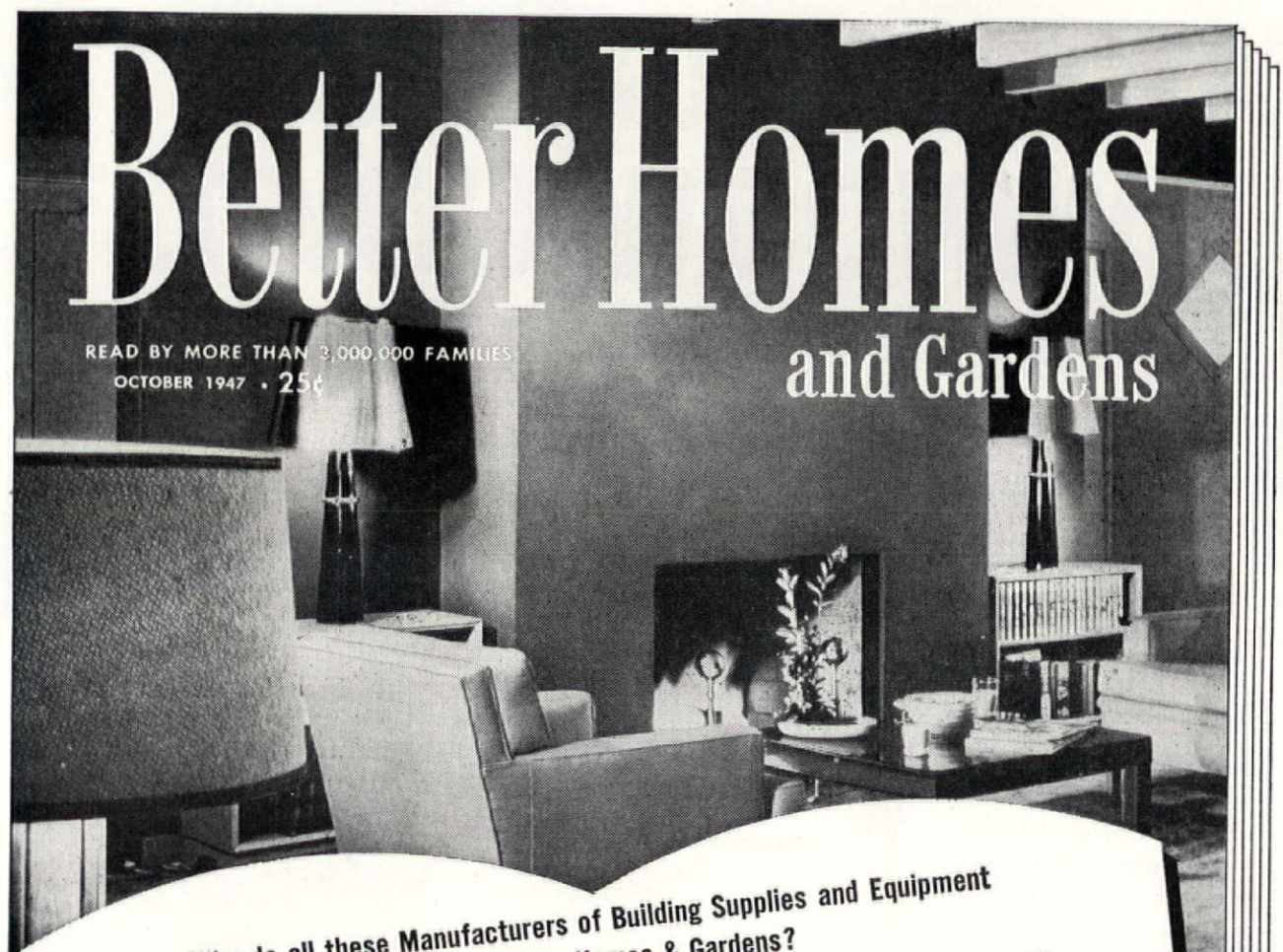
No expensive field assembling and fitting.

No hardware to buy.

No field painting on Aluminum Windows.

THORN WINDOWS
steel & aluminum

J. S. THORN COMPANY
PHILADELPHIA 32 PA.



Why do all these Manufacturers of Building Supplies and Equipment advertise in the October Better Homes & Gardens?

The answer's simple: BH&G creates cover-to-cover reader demand for its advertisers' products. All reading material deals with one theme — better living in better homes. High spots of the October issue for building supply and equipment manufacturers are such sales-creating features as "A Spreading House That Fits a City Lot." "Four Homes That Take to the Hills" and "Garden Rooms to Prolong Summer."

FLOOR COVERINGS
Armstrong Linoleum
Nairn Linoleum
Tile-Tex Asphalt Tile

HEATING & AIR CONDITIONING
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Burnham Boilers
Crane
Delco
Heatway Stokers
Hoffman
Heil
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Iron Fireman
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Pocahontas Pipeline
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Rheem
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Warm Morning Parlor Heaters

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Bennett-Ireland Fireplace Screen
Dust Stop Air Filters
Electromode Portables
Heatilator Fireplace
Logan Fireplace Screen
Minneapolis-Honeywell Controls
Research Air Filters
Surf Portables
Vornado Twin-Aire Portables

INSULATION
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Eagle-Picher
Gold Bond
Kimsul
Nu-Way Weatherstripping
Mortite Window Stripping
National Cotton Council of America
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American Central Kitchens
Crosley Kitchens
Guiberson Kitchens
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Tracy Kitchen Sinks
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Western Pine

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General Electric Homefreezer
Grand
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Maytag
Monarch
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Briggs Bath Fixtures
Church Toilet Seats
Culligan Soft Water
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Fairbanks-Morse Cellar Drainer
Mertland Hot Water
Myers Water Systems
Norge Hot Water
Ruud Hot Water
Smith Permaglas Hot Water
Stover Soft Water
Thermojet Portable Hot Water
Weisway Shower Units

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Kinkead Decorative Metal Mouldings
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Tile-Tex Asphalt Tile
Wood Conversion NuWood
United Wallpaper

WINDOWS
Alcoa
Alsco Comb. Screen Storm Door
Curtis Silentite
Fenestra Steel Casements
Libbey-Owens-Ford
Orange
Thermoseal

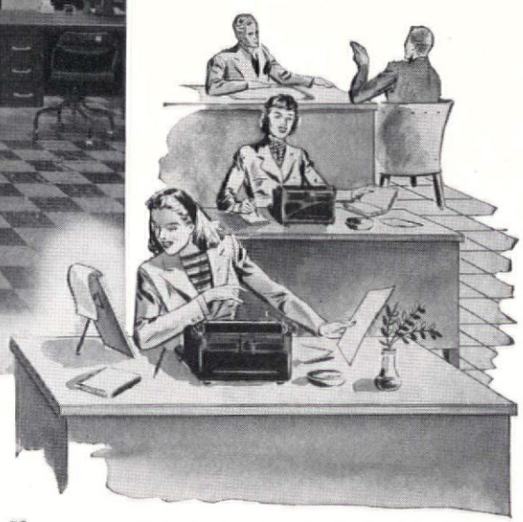
MISCELLANEOUS
Acme Venetian Blinds
Bakelite Vinylite Shower Curtains
Bell Telephone
Clopay Venetian Blinds
Columbia Venetian Blinds
Dutton-Lainson Mailboxes
Edwards Chimes
Flexalum Venetian Blinds
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General Electric Lamps
General Electric Wiring
Grand Rapids Invizible Sash Balance
Kirsch Venetian Blinds
Knape & Vogt Closet K-Veniences
Moe Bros. Light Fixtures
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Pyrene Fire Extinguisher
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CIRCULATION OVER 3,000,000

America's First Service Magazine



Schnefel Brothers Corporation, Newark, N. J.





This "new" office floor is celebrating its 15th Birthday!

Outstanding performance records are the rule rather than the exception for Tile-Tex* Asphalt Tile installations. These service records are even more remarkable, considering the low initial cost of this top quality asphalt tile and the ease with which it can be maintained.

Yes, you provide maximum value on all three counts, when you specify Tile-Tex Asphalt Tile! For it has an enviable, on-the-job record for extra long life under the heaviest kind of traffic conditions. A simple program of regular maintenance keeps it clean and sparkling. And first cost is so modest, Tile-Tex can be included in the specifications for almost every new building or modernization project.

What's more, when you work with resilient, hand-set Tile-Tex Asphalt Tile, it's easier to create the appropriate floor design for any area. That's because your "tools" consist of an unusual variety of colors and sizes . . . custom-made inserts, feature strips and other design accessories.

The Tile-Tex Field Representative and Flooring Contractor in your city will be glad to furnish any information you need. Write the Tile-Tex Company, Inc. (Subsidiary of The Flintkote Company) Chicago Heights, Illinois.

ASPHALT TILE-TEX TILE

TILE • TEX ASPHALT TILE

*REGISTERED TRADEMARK OF THE TILE-TEX COMPANY, INC.



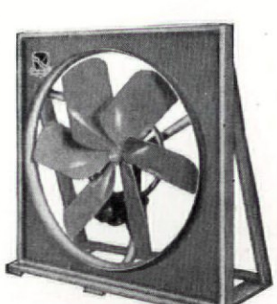
Many of next year's office buildings and housing units are on the drawing boards now. And now's a good time to include Bar-Brook in your plans.

Your clients know that Bar-Brook fans mean cooling summer breezes — for years to come.

●

If you haven't received your copy of Bar-Brook's new 48-page installation manual, write for it today!

●



BAR-BROOK BREEZE-BUILDERS are available in four sizes:
36", 7500 CFM Capacity
42", 10,500 CFM Capacity
48", 15,500 CFM Capacity
54", 18,000 CFM Capacity

BAR-BROOK WINDO-WIND
BAR-BROOK MFG. CO., INC.
(Formerly Shreveport Engineering Co.)
1553 TEXAS AVENUE
SHREVEPORT, LOUISIANA, U.S.A.
BAR-BROOK BREEZEBUILDER

FORUM

Behind the scenes with FORUM contributors



The design of a Boston brokerage office (p. 98) marks the brief return of **VICTORINE** and **SAMUEL HOMSEY** to their old bailiwick. Both studied architecture in Boston—Samuel at M.I.T., Victorine at the Cambridge School—and until 1931 maintained an office there. From their present office in Wilmington has come a steady stream of designs ranging from small homes (for which they are best known) to art galleries, stores, yacht clubs, theaters, public buildings.



Philadelphia architect **GEORGE DAUB** studied at Harvard, joined the office of Howe & Lescaze in 1928 to work on the famed Philadelphia Saving Fund Society Building. Other Lescaze projects in which he had a hand were the Chicago CBS Station and Williamsburg Housing Development. Since establishing his own practice in 1937, he has designed a number of homes, factories and offices (p. 100), is presently planning a Philadelphia television studio for C. B. S.





One of the first designs to bear the stamp of **ROBIN & VOGEL** is the trim Gair Company showroom (p. 102). To the new partnership Edwin J. Robin brought long experience in resort design and in public housing (New York City's original Housing Panel; Brooklyn's Red Hook Houses). Maxfield F. Vogel formerly taught at New York's Federation Technical Institute, worked in the offices of Antonin Raymond and Voorhees, Walker, Foley & Smith.



HENRY PETER GLASS hails from Vienna where he studied and practised architecture before coming to America in 1939. Here he worked in the offices of Gilbert Rohde and W. L. Stensgaard while doing free-lance interior, industrial and display design. In 1945 he designed the Kling Studios (p. 114) with Friedman, Alschuler & Sincere, soon afterwards established his own firm. He is on the faculty of the Chicago Art Institute teaching industrial design.

FRIEDMAN, ALSCHULER & SINCERE, who collaborated on the Kling Studios (p. 114) trace the history of their Chicago firm back to 1907 when it was founded by Alfred S. Alschuler, Sr. Since that time the organization has designed over 2,000 buildings valued at more than a quarter of a billion dollars. Edwin M. Sincere joined the office in 1912, Raphael N. Friedman in 1919 and Alfred S. Alschuler, Jr. in 1935. The present firm name was adopted after the death of Founder Alfred S. Alschuler, Sr. in 1940.









THE ARCHITECTS COLLABORATIVE is a group of designers seeking a new technique of teamwork, one that will "emphasize individual freedom of initiative instead of authoritative direction by a boss." Its partner and guiding spirit is famed **WALTER GROPIUS** whose influence as designer and teacher is world-wide. Now Chairman of the Department of Architecture at the Harvard Graduate School of Design, he was from 1918 to 1927 director of Germany's Staatliches Bauhaus. Fellow members of the group are: Louis McMillen, Norman Fletcher, Benjamin Thompson, John Harkness, Robert McMillan, Jean Fletcher, Sarah Harkness and Leonard J. Currie. An example of their collaborative work is the study of Plexiglass as an architectural material (p. 121).

Do these false beliefs keep you from converting to aluminum?

(Below are *4 misstatements* commonly applied to aluminum. Have *you* made any of them?)



1. "Aluminum is not readily adaptable to my product"

Fact: Kaiser Aluminum comes in a wide range of alloys to meet every type of manufacturing operation, and can be formed, drawn, spun, brazed or joined. It can be painted or polished, or finished in almost any way you choose. To select the alloy specifically suited to your requirements, simply call on a Permanente Metals' engineer.



2. "Aluminum costs too much"

Fact: While prices of other materials have steadily risen, aluminum is now *at the lowest price in history.* Figured *not* on a per pound basis, but on *unit cost,* aluminum prices (which include freight charges) compare favorably with those of any other metal or material. In addition, savings made on handling, finishing and shipping cut costs substantially.



3. "My competitors aren't converting. Why should I?"

Fact: Scores of manufacturers are speeding their products to market — by converting to aluminum. That's true of makers of general appliances, residential buildings, air conditioning units, heating and ventilating ducts, garage doors and window frames, office appliances and cabinets . . . *plus dozens more.* Their experience can help *you.*



4. "I can't be sure of a steady, long-term supply"

Fact: This statement couldn't be more wrong — *especially today.* For Permanente Metals now offers a new source of aluminum . . . Kaiser Aluminum. In but a single year of operation Permanente Metals produced 175 million pounds of plate, sheet and strip aluminum. Almost as much as the entire industry produced in the most productive year before the war.

To the above facts add these . . .

Aluminum's resistance to corrosion cannot be matched. Nor its strength per pound — it can give the strength of steel at one-third the weight.

Aluminum's appearance can make products more attractive, giving them a competitive edge.

In the light of these *facts,* can you afford NOT to investigate the possibility of converting to aluminum? Call any Permanente Metals' office and an experienced sales engineer will be on the job!

Ready to serve you—*today...*

Kaiser Aluminum

a Permanente Metals product

DISTRIBUTED BY PERMANENTE PRODUCTS COMPANY, KAISER BLDG., OAKLAND, CALIFORNIA . . . WITH OFFICES IN:
Seattle, Wash. Oakland, Calif. Los Angeles, Calif. Dallas, Texas Wichita, Kan. Kansas City, Mo. St. Louis, Mo. Atlanta, Ga. Minneapolis, Minn. Milwaukee, Wis. Chicago, Ill. Cincinnati, Ohio Cleveland, Ohio Detroit, Mich. Boston, Mass. Hartford, Conn. Buffalo, N.Y. New York City, N.Y. Philadelphia, Pa. Washington, D.C.

The PLANNING BOARD



The Truscon Planning Board Says: "Normal delivery on many of our Steel Building Products is now possible. In fact, on all material for which raw material is readily available, a normal rate of production and delivery is currently in effect." However, since production and delivery schedules change from week to week, we suggest you contact the nearest Truscon Sales office for the latest information.

More Light and Air for the Lynmore Apartments

Thanks to the generous use of Truscon Series 138 Double-Hung Steel Windows, and the large glass areas of these modern units, the occupants of the Lynmore Apartments amply utilize nature's free sunshine and fresh air. And protection against insects during the summer is assured by Truscon Metal Screens.

The trim, slim lines of Truscon Residential Double-Hung Windows produce a clean cut modern effect that adds distinction to any building. Moreover, their beauty is permanent, because these windows are made of STEEL. Truscon Double-Hung Steel Windows cost no more to buy and install than ordinary windows. Completely factory assembled and delivered ready for installation, their cost will fit the budgets of the most modestly priced homes. They can be economically installed. And, surprising as it may seem, they actually cost LESS when all contributing cost factors are accurately computed. Combination screen and storm sash units are available at reasonable prices. Write for complete details on Truscon Double-Hung Steel Windows.

The structural strength of the Lynmore Apartments is adequately protected by Truscon Concrete Reinforcing Bars, used in conjunction with Truscon Welded Steel Fabric.

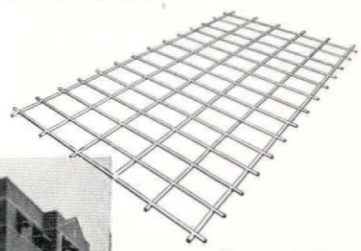
Truscon Steel Bars for reinforcing are applicable to a wide range of concrete work, such as concrete slabs, beams and girders, columns, walls and footings; in the construction of buildings, bridges, tanks, and all other concrete structures subject to tension and compression stresses.

These concrete reinforcing bars are special rolled sections of high grade steel, with a series of longitudinal and diagonal ribs so designed as to provide the maximum bond with the surrounding concrete. Write for details of Truscon Reinforcing Bars.

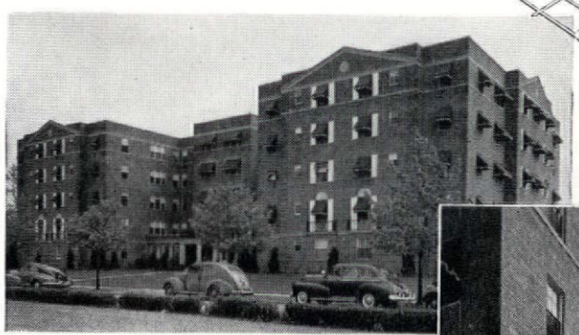


Truscon Reinforcing Bar

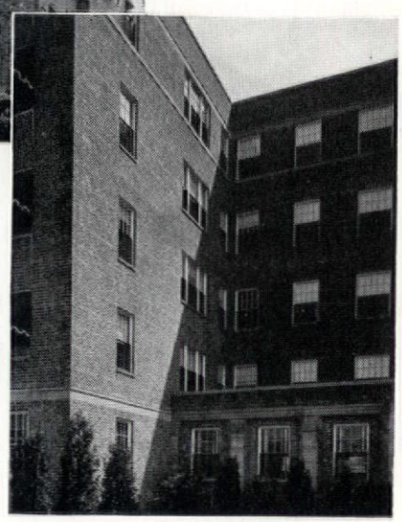
Truscon Welded Steel Fabric is widely used in all types of architectural structures, roads, driveways, airport landing fields, and wherever large areas of concrete must be given internal protection against cracking, heaving, etc. Write for details.



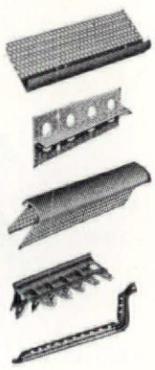
Truscon Welded Steel Fabric as used in the Lynmore Apartments.



The Lynmore Apartments, Shaker Heights, Ohio. Architect—J. L. Weinberg. Contractor—William Dolin Construction Company.



Metal Lath Accessories



Truscon now is equipped to furnish Bull Nose and Scalloped Edge Corner Beads, Special Base Grounds and Screeds, Picture Mold, Casings, Fittings and other plastering accessory items. These complement the well-known Truscon line of Metal Lath, Stucco Mesh, Corner Reinforcements, Hollow Partition Studs, Cold Rolled Channels and other products related to the plastering trades. All Truscon Metal Lath Products are manufactured in accordance with U. S. Department of Commerce Simplified Practice Recommendation R-344.

Write for free catalog showing the complete line of Truscon Metal Lath and Accessories, or refer to SWEET'S.

Truscon Pioneered Development of Rib Metal Lath

In 1907 Truscon designed and developed a Hy-Rib Lath to meet the need for an economical and incombustible plaster base that would be rigid enough to permit wide spacing of supports of walls and ceilings. This permitted greater speed of erection and faster application of lath. Hy-Rib thus became the forerunner of flat rib lath, developed in 1909, and the present complete line of Metal Lath Products and Accessories now manufactured by Truscon.

Cuts Roof Costs

If you have a flat, pitched or curved roof on which to put an economical permanent deck, Truscon "Ferrobord" Steeldeck permits you to meet all the requirements of such a job.



"Ferrobord" Steeldeck consists of a parallel system of strong structural interlocking steel members, which present a smooth surface over which can be applied built-up roofing of any type, with or without insulation. "Ferrobord" is made from both 20-gauge and 18-gauge cooper-bearing strip steel, having an ultimate strength of not less than 50,000 lbs. per square inch. Each unit is 6 inches wide and has a depth of either 1½ or 1¾ inches.

The Truscon Steel Company will be glad to cooperate with local roof companies in selecting the proper type of insulation and built-up roofing to meet certain definite requirements of structures.

New Literature

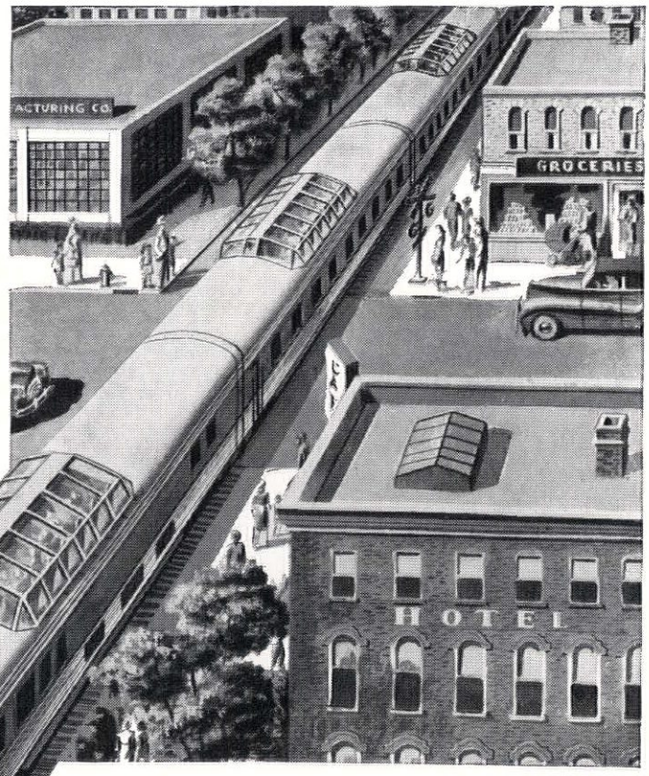


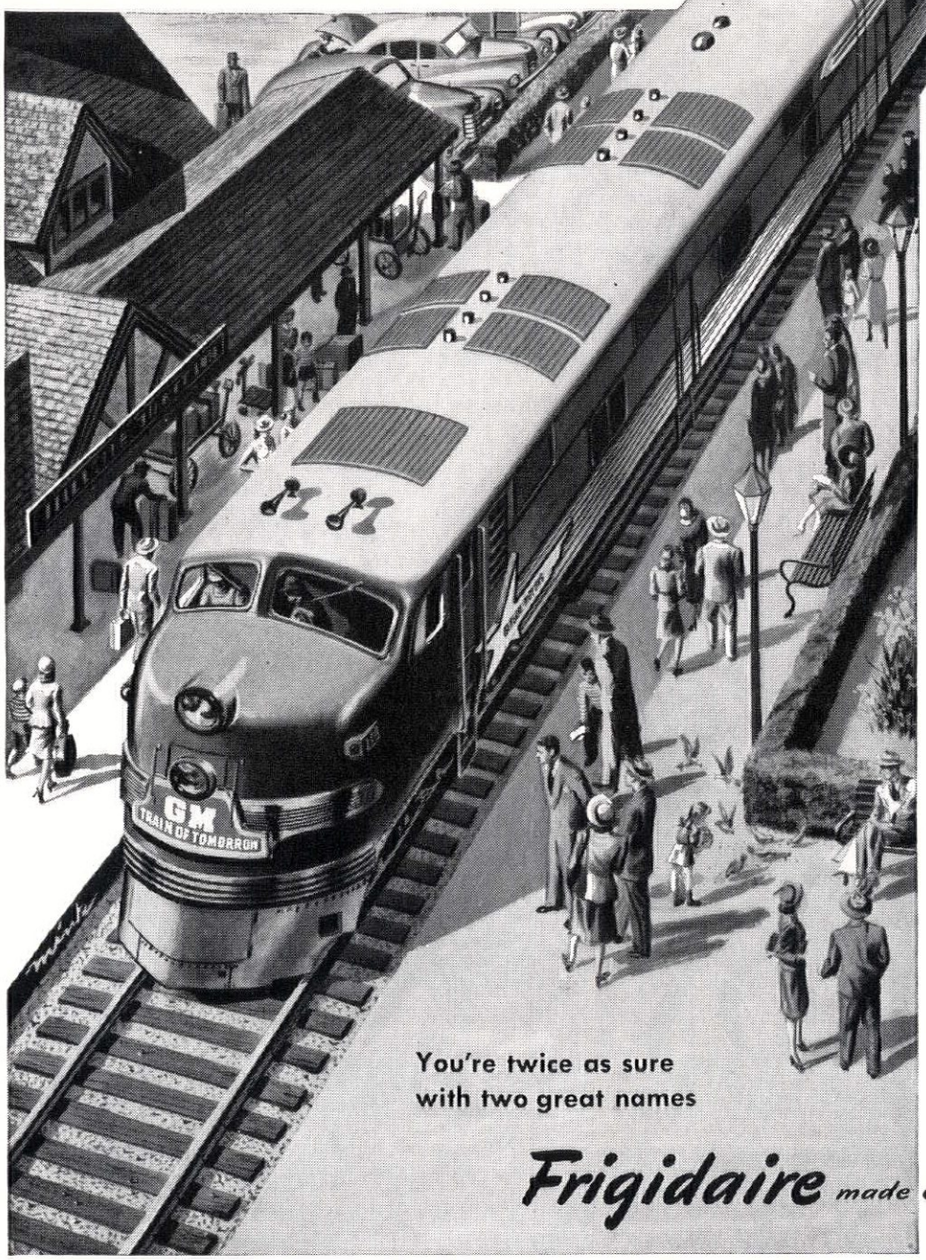
A 34-page catalog on Truscon Residential Double-Hung and Casement Windows. Complete with all details. Write for free copy.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

General Motors' "Train of Tomorrow" is FRIGIDAIRE equipped

Frigidaire Refrigerators preserve food in the ultra-modern diner of the "Train of Tomorrow," and provide ice cubes and cold beverages in the luxurious lounge. Frigidaire Air Conditioning keeps passengers comfortable in the "Astra Dome" atop each car and throughout the train. Refreshing drinking water from Frigidaire Water Coolers is always on tap. And each car has its own supply of electricity, provided by a "Power-Package" developed by Frigidaire in collaboration with Detroit Diesel Engine and Delco Products Divisions of General Motors.





You're twice as sure with two great names

Frigidaire made only by **General Motors**

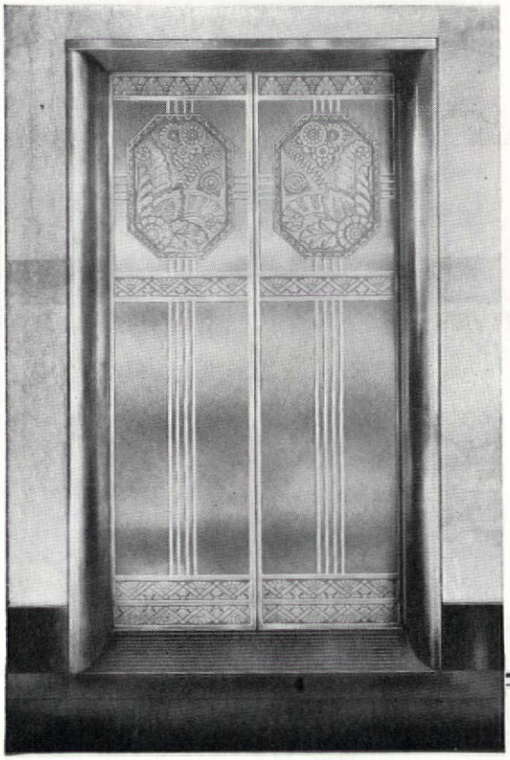
For your needs, too-depend on FRIGIDAIRE

The building you are designing or remodeling may require low or normal temperature refrigeration equipment, or packaged or central system air conditioning. Or you may need specialized equipment for any one of scores of applications.

In any case, depend on Frigidaire—on the skill and experience only Frigidaire offers you. Frigidaire has more than a quarter-century of refrigeration experience ...has built more than 8 *million* refrigerating units... manufactures refrigeration and air conditioning equipment for hundreds of different uses.

Consult Your Frigidaire Dealer. He has a wide variety of refrigeration and air conditioning equipment to match your needs. His organization is trained to engineer, install, and service this equipment properly. Find his name in your Classified Telephone Directory under "Refrigeration Equipment" or "Air Conditioning." Or write Frigidaire, Dayton 1, Ohio (in Canada, Leaside 12, Ontario) for specification sheets on:

Refrigerating Units • Air Conditioning Equipment • Cooling Units • Controls • Display Cases • Reach-in Refrigerators Water, Beverage, Milk Coolers • Ice Cream Cabinets • Household Refrigerators • Electric Ranges • Electric Water Heaters Home Laundry Equipment and Other Appliances.



FINISHING TOUCH
by
DAHLSTROM



SOME of the finest examples of attention to detail and completeness of pictorial beauty have been given to the world by the Old Masters . . . artists who spared no effort to create masterpieces which have endured through the years. Their works have a completeness satisfying to the most critical eye; every detail carefully worked out, each color planned and executed with the greatest of care.

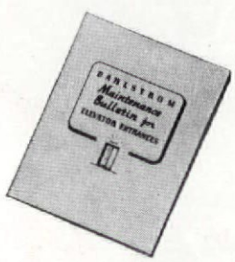
Lasting appeal of your architecture is dependent upon completeness of detail . . . details which include exterior and interior design and structure. Dahlstrom Elevator Entrances complete the architectural picture; they are planned to incorporate appropriate design and structural endurance. Your elevator entrances are important. Let Dahlstrom help you in the creation of your architectural masterpiece.

Illustrated above: Dahlstrom First Floor Elevator Entrances in the John Cahill Office Building, San Francisco, Calif. Typical Floor Doors also by Dahlstrom.

Meyers & Evers, Architects

Etched nickel silver panels. Nickel silver bindings and frames.

MAINTENANCE AIDS



A new issue of this helpful folder, contains operation, maintenance, and care of finish information of value to building operators and owners. Send for your copy.

DAHLSTROM

METALLIC DOOR COMPANY, JAMESTOWN, N. Y.

Branch Offices:

NEW YORK, CHICAGO, PHILADELPHIA, BOSTON, CLEVELAND, BUFFALO, ATLANTA, SAN FRANCISCO

Representatives in Principal Cities



...FOR MANY MEDIUM SIZE HOMES

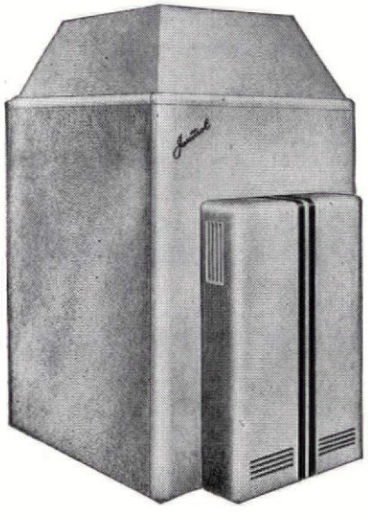


...FOR MODEST BUDGETS

THE NEW, IMPROVED, GAS-FIRED

Janitrol Gravity Furnace

IS THE MOST PRACTICAL



GRAVITY warm air has always been a popular method of heating small and medium homes. Now it has been brought up to date by the newly designed, completely automatic Janitrol Gas-Fired Furnace.

Versatile for Many Floor Plans

Especially suited to small basements, this new Janitrol takes little floor area, eliminates the need of space for fuel storage. It's good looking too, with attractive gray casing and neatly rounded corners . . . looks as modern as its design.

Low Initial Cost and Operation

The Janitrol Gravity Furnace is economical . . . to install . . . to use. It gives a gentle, continuous flow of warm air to each room, without blowers or motors. Operation is fully automatic, furnace requires no attention . . . simplicity of design and unique construction means low installation and maintenance costs.

IMPORTANT TO REMEMBER! You do not sacrifice quality when you install Janitrol . . . it's a product backed by 35 years of successful experience, devoted exclusively to the development of the finest gas heating equipment.

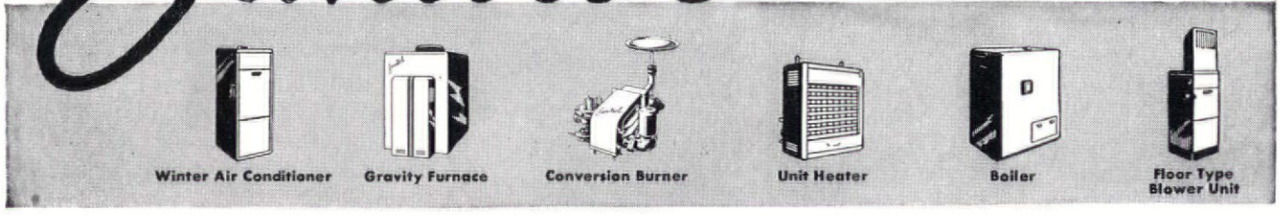
Installations are made by factory trained Janitrol dealers, fully qualified to recommend, lay out and service the most practical heating system for any particular type of new construction or remodeling.

Your Janitrol Dealer can show you the way to give your clients all the benefits of modern heating the most economical way.

Write today for the new Heating Guide File A.1A 30B. Architects, Builders, and Contractors will find it most useful.

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

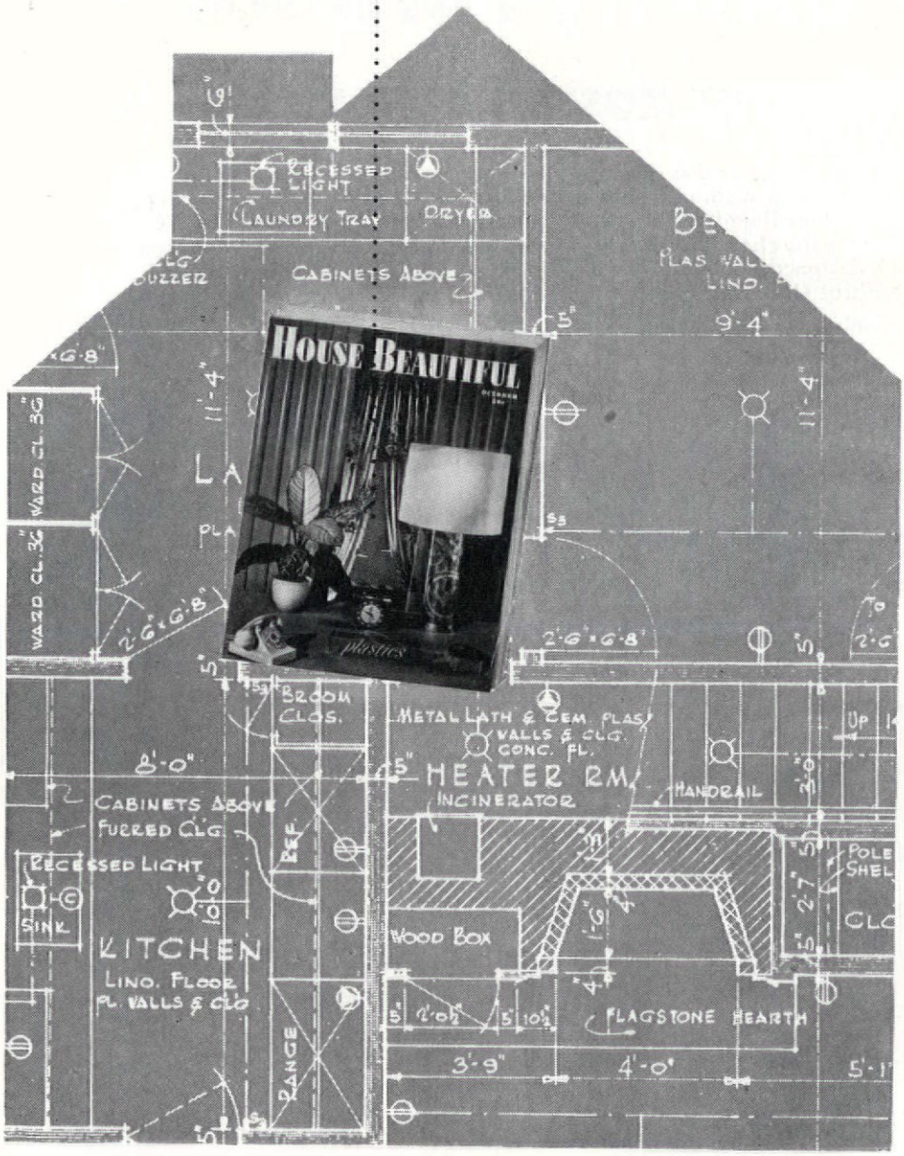
Janitrol GAS-FIRED HEATING EQUIPMENT



Source: "Leading National Advertisers," June 1947.

House Beautiful leads all magazines ...in building equipment advertising

BETTER YOUR HOME · BETTER YOUR LIVING



"INTRODUCTION TO CITY AND REGIONAL PLANNING," a 15-week course of lectures by Charles Bennett, will begin September 24 at the University of California, Los Angeles. Other Fall courses at the University will include: Furniture Construction; Planning the Small House; Interior Decoration; Real Estate Law and Practice; Architectural Drawing; Mechanical Equipment of Building; Building Codes; Construction Costs; and Home Planning.

THE UNIVERSITY OF OREGON now offers a complete, integrated program of architecture, landscape architecture and structural studies. New members of the departmental staff are: Dr. Marion Ross, Architectural History; Dr. Theodore Reyhner, Assistant in Structural Design; Jean Kendall, Art Education; Fred Cuthbert, Director of Landscape Architecture; Lynn Alexander, instructor in Applied Design.

ANTON REFREGIER, well known mural painter, will conduct a 15-week course in art this fall at the California Labor School in San Francisco.

THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERING, New York City, is sponsoring a 10-week session in Lighting Controls and Wiring at 39 W. 39th St., starting October 1.

THE INSTITUTE OF DESIGN AND CONSTRUCTION is a new school offering review courses for New York State Architect Registration exams. Veterans are accepted under the G.I. bill. Further information may be obtained from Vito Battista, AIA Director, 26 Court St., Brooklyn, N. Y.

A NEW DIVISION OF BUILDING TECHNOLOGY has been established by the National Bureau of Standards, Washington, D. C., to handle in a single division all problems involving physics, chemistry and engineering. Results of research will be available for use by national standardizing bodies and for study in code requirements. The new division will consist of 5 sections: structural engineering; fire protection; heating, ventilating and air conditioning; exterior and interior coverings; and codes and specifications.

THE CALIFORNIA COUNCIL OF ARCHITECTS holds its annual meeting at Catalina Island, Oct. 1-4. Hawaii, Arizona, Nevada, Oregon and Washington architects have been invited to attend, as have several other West Coast building groups.

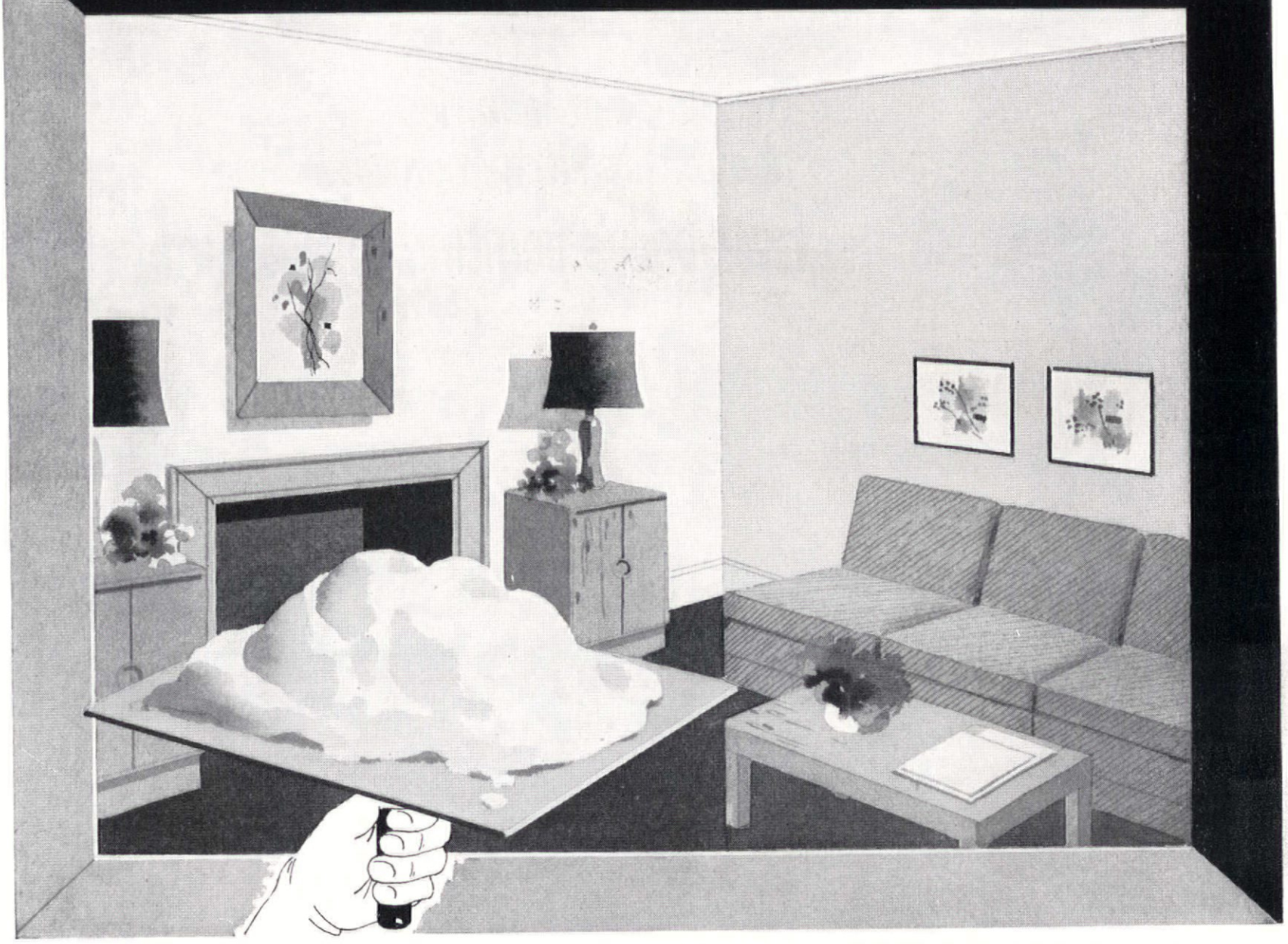
N. Y. STATE ASSOCIATION OF ARCHITECTS announces that its 1947 convention will be at the Hotel Commodore, New York City, Oct. 22-25.

BUILDING PREVIEWS



THE $2,000,000 FACULTY HOUSING PROJECT now under construction for the University of Chicago will include, when completed, five 8-story fireproof buildings and ten 3-story walk-up buildings. All apartments (ranging in size from 2½ to 6 rooms, and in cost *(Continued on page 68)*

FOR MODERN INTERIORS USE PLASTER



The finishing touch that means so much
IVORY Finishing Lime

Whether on walls or ceilings . . . plain surfaces or flowing curves, you'll find one material with which beauty and permanence are best expressed . . . IVORY* Finishing Lime.

It is widely available, made from whitest white Ohio limestone, takes any type of decoration, is highly fire resistant, low in cost. Being pressure hydrated it will not swell or buckle away from basecoat.

IVORY Finishing Lime contains not over 8% unhydrated oxides. This is a requirement of new ASTM specification C 207-46T-Type S and proposed amendment to Federal Specification SS L-351 Type F, as well as ASA and other specifying agencies.

And you may be certain of one quality . . . one responsibility—when you specify ROCKLATH* plaster base and RED TOP* Plaster topped off by IVORY Finishing Lime, blended with RED TOP Gauging . . . the finishing touch that means so much.

*ROCKLATH, RED TOP and IVORY used above are trademarks which distinguish products manufactured only by the United States Gypsum Company.

USG

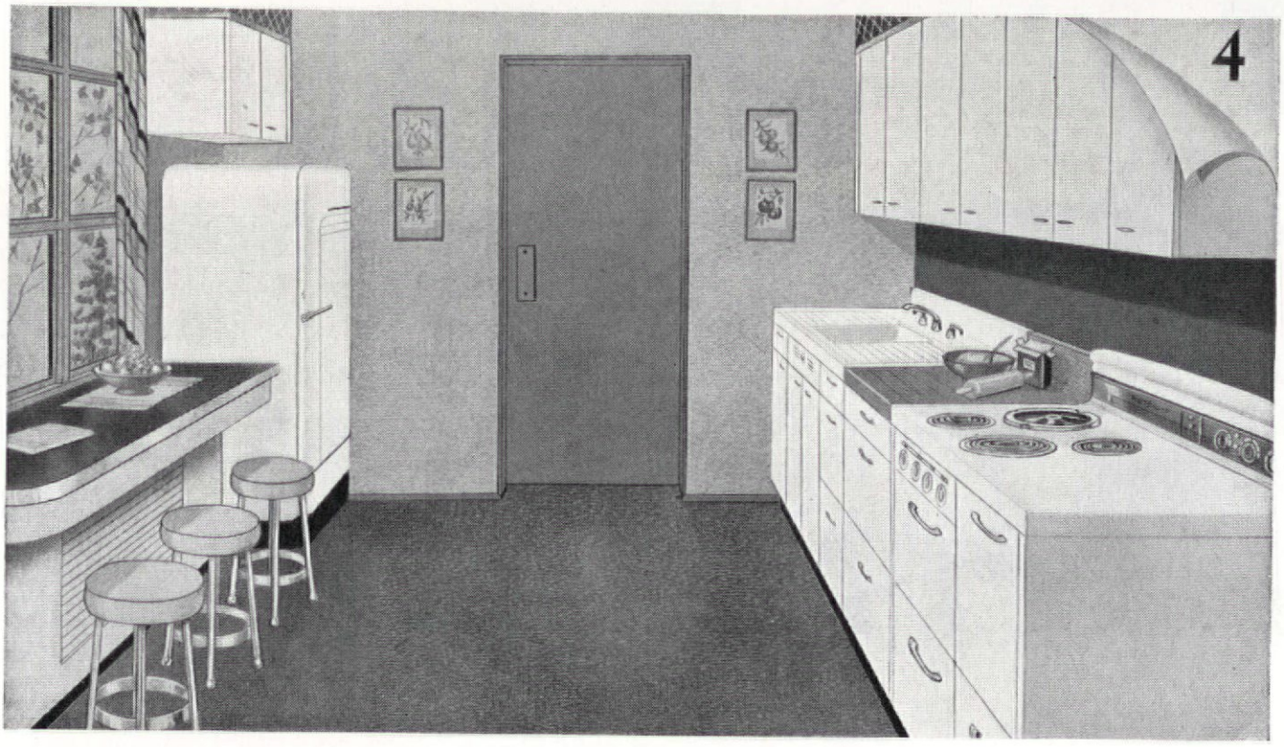
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For Building • For Industry

Gypsum · Lime · Steel · Insulation · Roofing · Paint



Thousands of Inquiries about this kitchen prove... "Everybody's pointing to Hotpoint!"



WHEN YOUR PROFITS and reputation depend on public approval, it pays to keep well posted on current popular preferences. Such information is particularly helpful in the all-important matter of kitchen planning. That's why you can't miss with the cheerful, convenient Hotpoint "American Eagle" kitchen pictured above. The Hotpoint Kitchen Planning Service receives thousands of inquiries about this compact little kitchen — and each inquiry represents a potential building or remodeling job for you. Powerful national advertising has made the Hotpoint electric kitchen one of the most important factors in the home today and for many years to come. Farsighted builders and architects will take advantage of this wide open field!

No. 4 in the important "America Picks Its Favorite Kitchen" Series

HOTPOINT HAS THE INFORMATION YOU WANT!

Hotpoint architects, engineers and home economists have collaborated to put the results of many years of successful kitchen planning and installation into one handy booklet. Send the coupon today for your copy of the Hotpoint Portfolio of Personalized Kitchen Plans. You'll find it answers your questions and makes it easier to plan and build the kitchens that are popularly acclaimed America's favorites!



The Hotpoint Institute
5651 West Taylor Street, Chicago 44, Illinois

Without obligation, please send me your *Portfolio of Personalized Kitchen Plans*. This offer available to architects, builders and contractors only — in the United States, Territories of Hawaii and Alaska.

Name_____

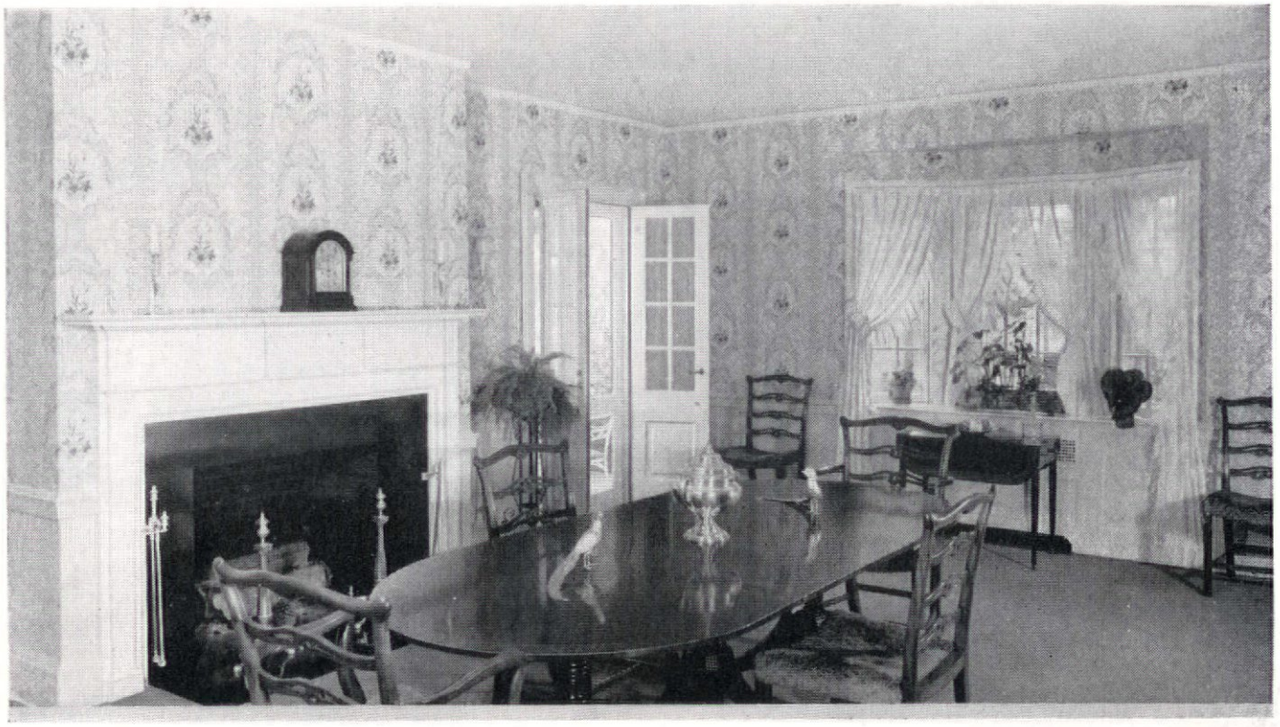
Firm Name_____

Address_____

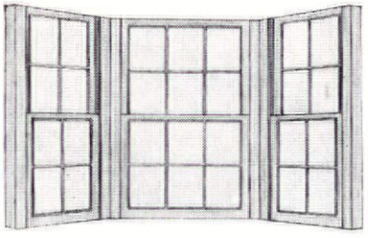
City_____ State_____

Hotpoint

HOTPOINT INC. A GENERAL ELECTRIC AFFILIATE



No Need to Skimp on Sunshine!



Attractive bays need not be expensive when made of stock design Ponderosa Pine windows. In the bay shown above, three Ponderosa Pine double hung units were used to create an effect of lightness and grace. Note also the Ponderosa Pine French doors. Ponderosa Pine doors and windows are made in a wide variety of styles . . . and accurately made stock frames help assure proper installation.

Sunny interiors with plenty of windows are the dream of planner and owner alike. And no icy hand of budget limitations need shatter that dream if you choose stock-design Ponderosa Pine windows! Precision built, these windows embody high quality and low cost.

Ponderosa Pine, an ideal material for windows, is friendly to the owner's pocketbook. The grain of this wood is close, uniform and resists raising. Its surface is even textured, sands to a satin-smooth finish to take and hold paint, enamel, stains and varnish. Remember, too, that wood is a natural insulating material and does not readily transmit heat or cold.

Dozens of photographs showing uses of Ponderosa Pine windows and doors are contained in "Today's Idea House," 32-page booklet. You will want a copy for your file—just mail the coupon.

For Friendly Living . . .

Ponderosa Pine

WOODWORK



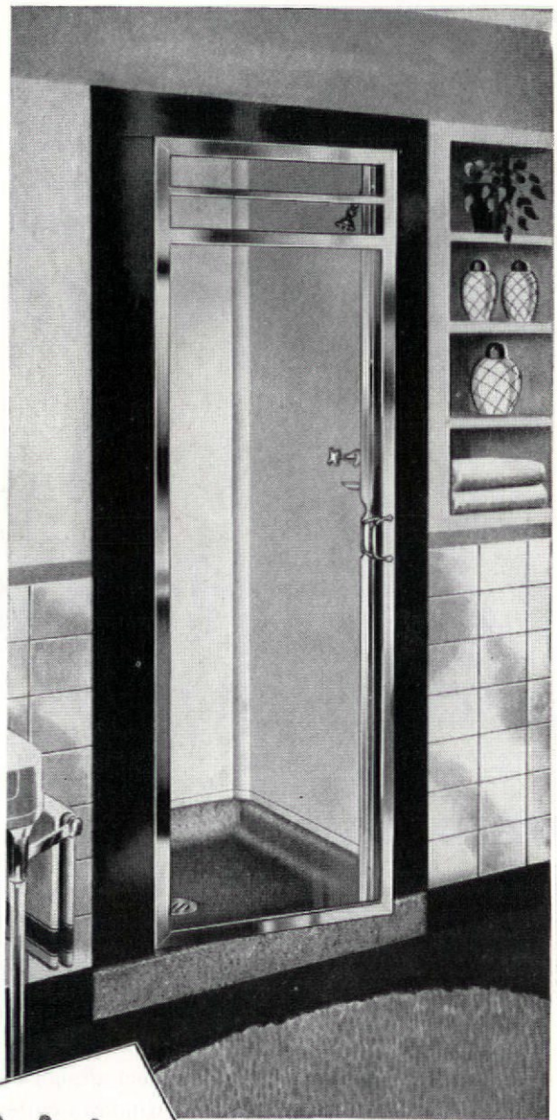
Ponderosa Pine Woodwork
Dept. PAF-10, 111 West Washington Street
Chicago 2, Illinois

Please send me a free copy of "Today's Idea House."

Name..... *(Please Print)*

Address.....

City..... *Zone*..... *State*.....



Dolphin Door installed on Fiat Admiral Cabinet faced with structural glass.

Construction Features

STANDARD SIZE
24 x 72 INCHES

Solid brass one piece frame heavily chromium plated. One piece heavy extruded brass hinge jambs and specially constructed leak-proof continuous brass piano hinge make a smooth working, rigid door. Double friction catch, off-set handles, and water deflector to prevent dripping on floor are features that mark the finest in shower door construction.

Dolphin SHOWER DOOR

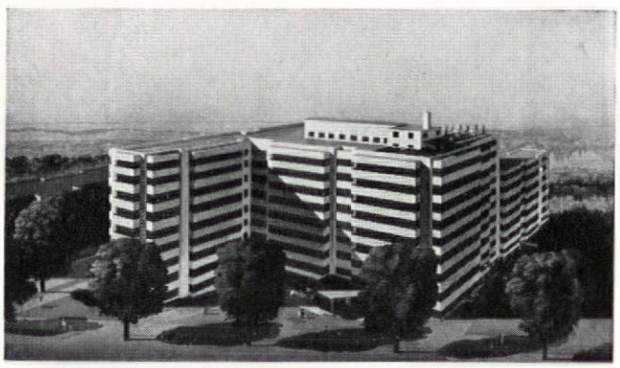
Essentially the same high grade shower door as the former Fiat Senior, but redesigned along modern lines with improved construction features. Made of solid brass, heavily chromium plated, the Dolphin represents the best in a shower door; can be furnished on Fiat Shower Cabinets and for built-up showers of tile, marble, or structural glass walls. This Dolphin Door is now in production for prompt delivery.

In Canada—Fiat showers are made in Canada by The Porcelain and Metal Products, Ltd., Orillia, Ontario.

Fiat *Metal Manufacturing Company*

CHICAGO 13, ILL.
LONG ISLAND CITY 1, N. Y. LOS ANGELES 33, CALIF.

from $72.50 to $125 a month) will have three exposures. Automatic thermostatic control will be installed in each apartment to regulate the forced hot water heating system. Philip Maher is architect; C. H. Larsen & Co., engineer; W. J. Lynch & Co., general contractor.



THE KENMORE APARTMENTS (sketch above) to undergo construction this Fall in Washington, D. C., will provide 338 apartments (2 to 5½ rooms) for the city's northwest quarter. Philip Jullien & Co. are architects for the air-conditioned structure, whose lay-out provides "outside" exposure for every room. Building heights range from 7 to 10 floors because of the sloping site. Basement area provides parking for 125 cars.

AN AIRCONDITIONED, WINDOWLESS DEPARTMENT STORE at Silver Springs, Md., will be completed in November for the Hecht Co. at an estimated cost of $3,000,000. Another addition to the growing number of suburban department stores (Macy's and Altman's in New York City opened stores during the last month) this 3-story reinforced concrete building will serve customers on the outskirts of Washington, D. C. Abbott-Merkt & Co., New York City engineers, designed the store; James Parsons, Jr., Washington, is general contractor.

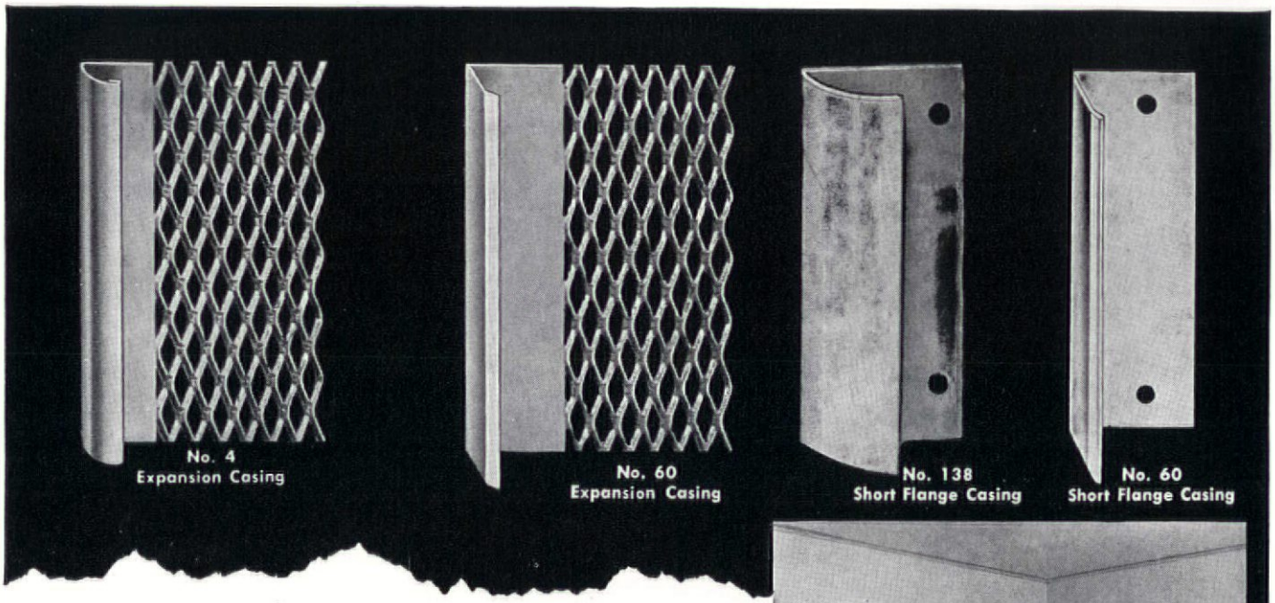
FIRST NEW SCHOOL PROJECT to get under way in the New York area is Archbishop Stepinac High School, White Plains. Architects Eggers & Higgins planned the school which provides classroom facilities for 1,350 pupils and living quarters for a staff of 40 religious. The north wing, housing a gymnasium and 1,100 seat auditorium, will be of structural steel construction; classroom and administration wings of reinforced concrete; the whole building will be brick faced. Plans also specify a cafeteria for 300 and a 12-car garage.

THE 666-UNIT HOUSING PROJECT at E. Paterson, N. J., announced by Roth Schenker Corp. will occupy only 25 per cent of its thirty-eight acre site. Moderate land costs also permit use of 2-story buildings. William Dowling, architect, designed the $6,250,000 housing center which provides suites from 3½ to 6 rooms. The same firm has already begun work on another project in the New York community area—the 1,338-family Marine Terrace Apartments in Astoria, N. Y., costing $13,000,000.

APPOINTMENTS

GILMORE CLARKE, landscape architect, has been chosen to represent the National Institute of Arts and Letters on the U. S. Commission for UNESCO.

J. GORDON LIPPINCOTT & Co., New York industrial design firm announces the appointment of two Vice Presidents: Norman Schoelles (Packaging Division) and Robert de Veyrac (Interior Design). *(Continued on page 72)*

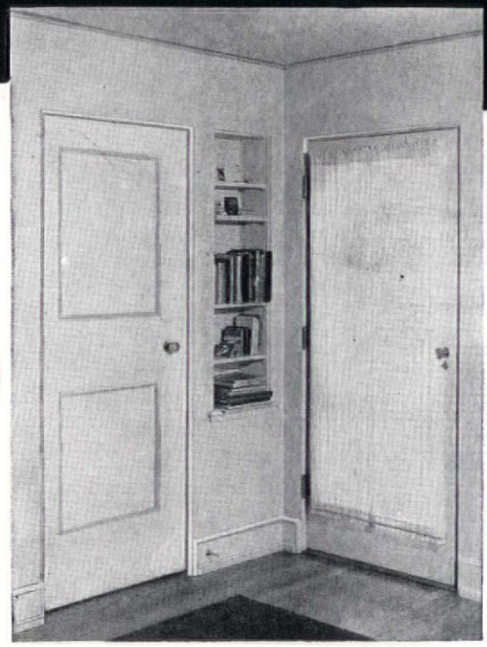


You build a reputation for substantial, good-looking interiors—with

MILCOR

Steel Casings

for doors and windows



Here's Why

The permanence of steel prevents warping, shrinking, rotting, etc., and provides greater resistance to fire and impact. Casings act as a trim and also as a ground for the plaster.

Sound, durable construction

The expanded metal wing feature of Milcor Plastered-In Steel Casings provides a secure bond and key for the plaster around doors, windows, and other wall openings. The crack-resistant, flush-tight junction of wall and casing insures a sanitary finish and enduring beauty.

The appeal of "added spaciousness"

Where "heavy" types of trim appear to shrink a room, Milcor Plastered-In Steel Casings expose only a narrow face flush with the plaster surface, to give a feeling of greater roominess . . . an air of smartness.

Simple, speedy erection

Because all styles of Milcor Casings are straight and uniform, the builder gets perfect mitres at corners — and a neat, invisible union with the plaster surface.

The final cost of installing Milcor Casings is usually less than for a well-finished job with less durable materials, because: Erection is easier. No sanding is required for finishing. Milcor Casings require fewer coats of paint. There is no warping or misfitting, even in the presence of moisture; there are no adjustments to make after the job is completed.



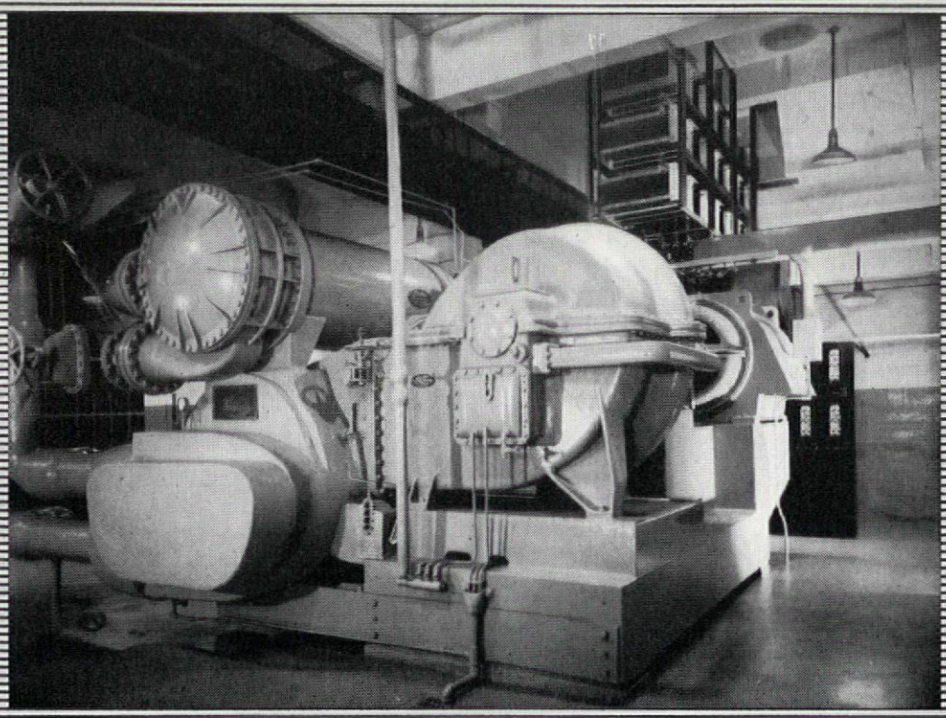
F-291C

Write today for your free copy of the Milcor Metal Trim catalog.

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Los Angeles 23, California
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refrigeration that looks ahead

Centrifugal refrigeration has made great strides since it was developed by Dr. Carrier and his associates 25 years ago. By far, the greatest number of centrifugal refrigerating machines in use today are Carrier-designed. They're found in almost every major installation—from air conditioning skyscrapers to providing low-temperature refrigeration for great packing houses. They're first choice of those who want modern refrigeration in the years ahead.

Pioneering research and a quarter-century's experience on large-scale installations give Carrier unrivaled knowledge of centrifugal design. Carrier was first to offer low-fin tubing, which simplifies maintenance and lightens weight . . . and the first to develop an economizer to reduce horsepower. This centrifugal is the only one that has the dollar-saving Carrier shaft seal.

Carrier centrifugals vary in capacity from 100 to 1200 tons. They can be used in existing ammonia systems, and driven either by direct turbine or by motors. As with every Carrier product, Carrier leadership assures long, trouble-free service—plus low-cost operation and maintenance. Carrier Corporation, Syracuse, New York.

Carrier

air conditioning

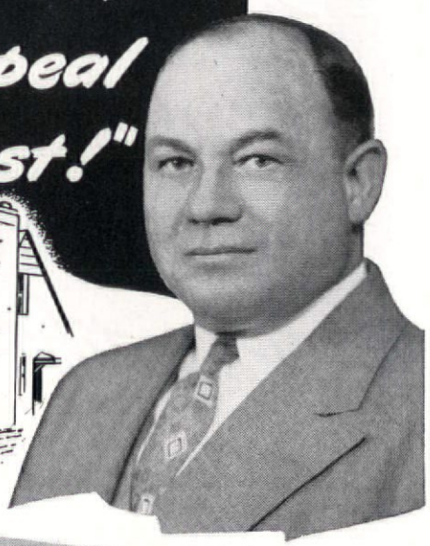
refrigeration

industrial heating

"Our own experience convinced us . . . .

BRUCE FINISHED FLOORS rate HIGH in buyer appeal ...LOW in installed cost!"





Reports HARRY J. DURBIN
Well-known Detroit home builder

Mr. Durbin should know. His firm, long-time leader in the Detroit building industry, has used Bruce Finished Floors in more than 1200 units since 1939.

He writes: "Our records, covering eight years' experience with Bruce Finished Floors, show that elimination of the sanding and finishing operations required with old-type strip flooring has saved us an average of $30 to $35 and three working days per unit.

"These savings, combined with the almost unanimous enthusiasm of our buyers and tenants for the exceptional beauty and wearing qualities of the finish, have convinced us that Bruce Finished Flooring is the outstanding flooring in the market today."

All over the country, many leading operative builders like Mr. Durbin are having similar experiences. They're discovering, just as he did, that Bruce Finished Floors are best because they eliminate unnecessary costs and give the buyer a more beautiful floor with a superior, long-lasting finish.

E. L. BRUCE CO.
Memphis, Tennessee
World's Largest Maker of Hardwood Floors

Merle W. Hogan, Architect for Durbin homes, writes:

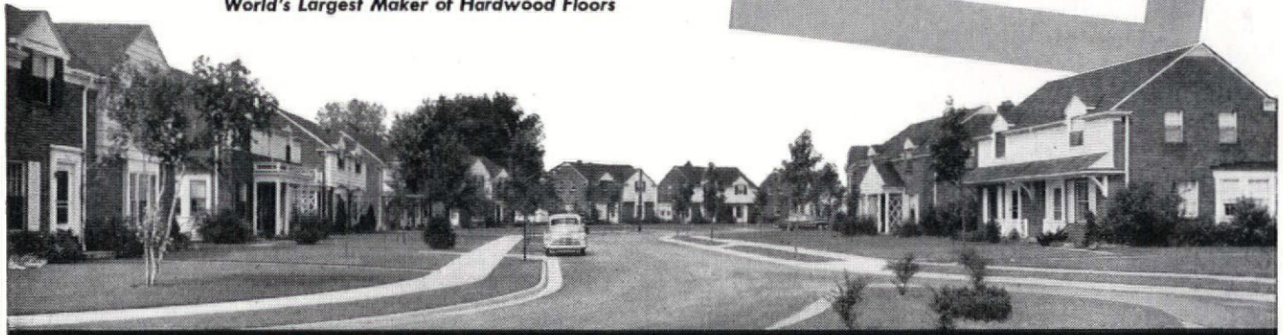
"Bruce Finished Flooring was first specified by me in 1939 for use in homes built by Harry J. Durbin. Since that time I have specified it for hundreds of clients and observed how it withstood years of use.

"I am sure Bruce Finished Flooring provides a better floor for residential use than ordinary flooring. It provides a pleasing pattern and a fine finish which is easily cleaned and maintained.

"I have also found that Bruce Finished Flooring actually costs less and saves time during construction."

Yours very truly,

MERLE W. HOGAN, A. I. A.



BRUCE FINISHED FLOORS

ANNOUNCEMENTS

LAWRENCE ENERSEN has been named Professor of Landscape Architecture at the College of Argriculture and Engineering, University of North Carolina, Raleigh, N. C.

HERBERT SINNARD is now head of the Department of Architecture at Orgeon State College, Corvallis, Ore.

NEW OFFICES

CARL BRAUER AIA announces the opening of an office for general practice at 165 E. 72d St., New York, N. Y.

DONALD CAMPBELL AIA announces the opening of his architectural office at 1250 Prospect St., La Jolla, Calif.

CALLIX MILLER AIA, architect and engineer, formerly on active duty with the U.S.N. Civil Engineering Corps, has reopened his office for general practice at 234 Christman Bldg., South Bend 7, Ind.

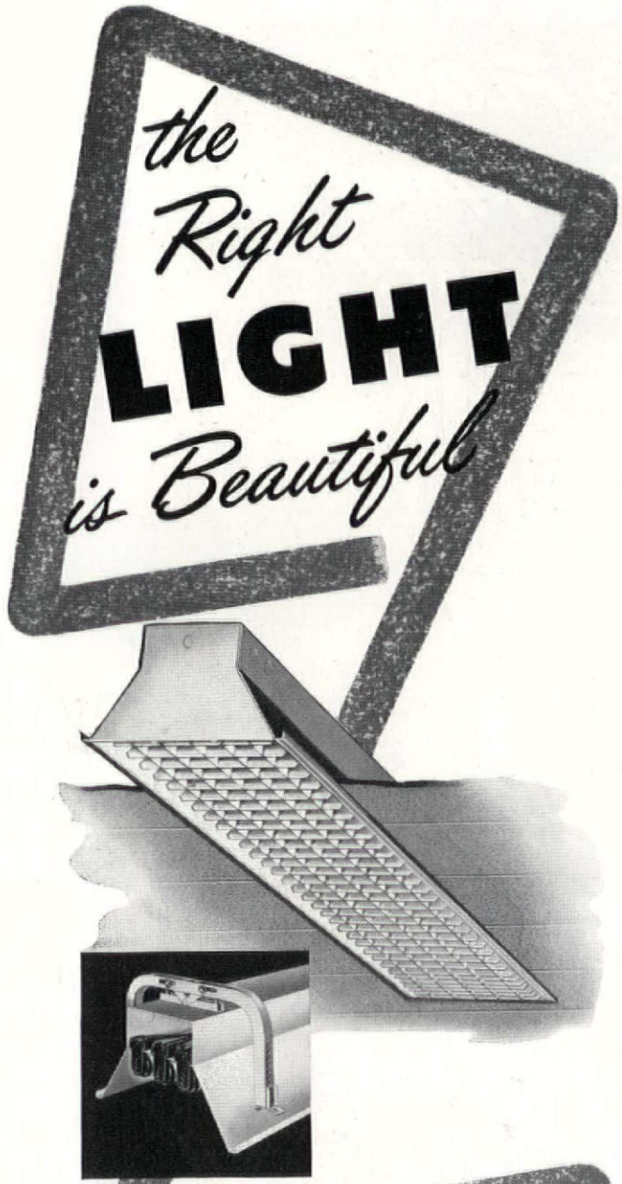
NAESS & MURPHY will carry on the architectural and engineering work of the recently dissolved firm, Shaw, Naess & Murphy at the Railway Exchange Bldg., Chicago, Ill.

ALBERT CRIZ AIA will practice architecture at 556 S. Harvard Blvd., Los Angeles 5, Calif.

JAMES ROBINSON, architect, has opened an office at 21 W. Frederick St., Staunton, Va.

DAVID CECIL, architect, announces the opening of his new office in Spartenburg, S. C.

HARRY ALPER has resumed architectural practice at 565 Fifth Ave., New York, N. Y. *(Continued on page 76)*

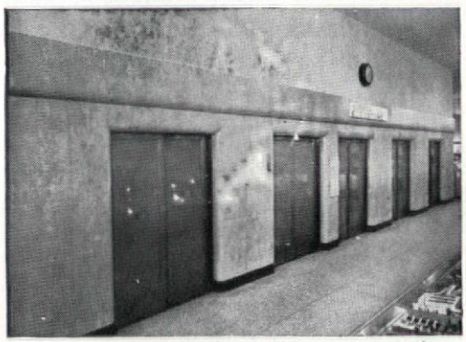


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HIGHLAND PARK, ILLINOIS

GENUINE ORIGINAL
STRUCTURAL BENDS
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For Modern New Interior Remodeling



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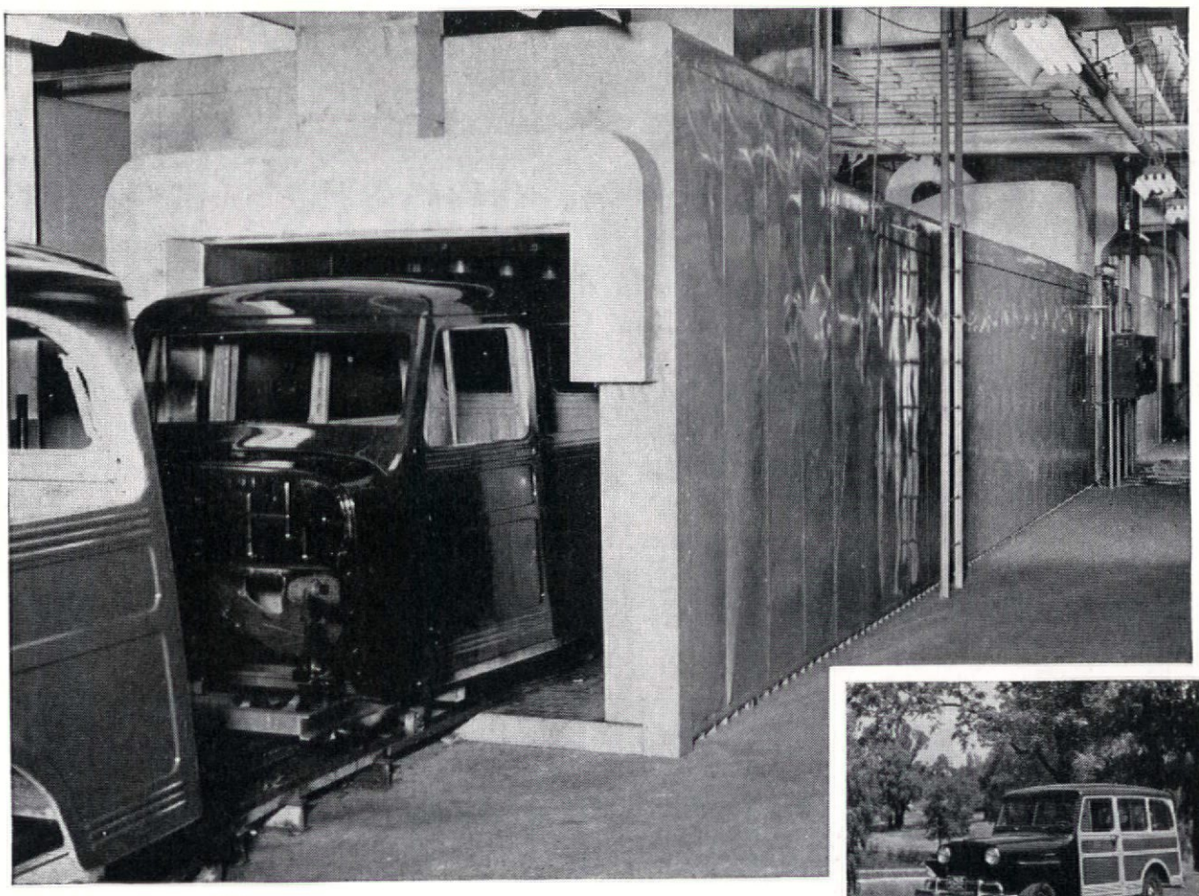
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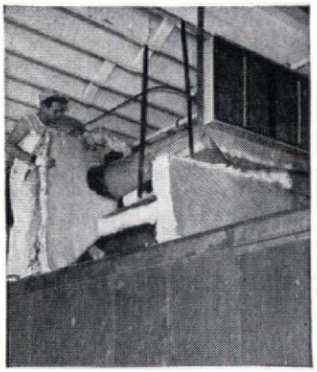
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Heat control is a full-time job at the Willys-Overland Motors Inc., plant in Toledo, Ohio. Here, as in other plants from coast to coast, Fiberglas Metal Mesh Blankets assure important savings in fuel—and provide a combination of other advantages found in no other single material. These blankets are *firesafe, light in weight, non-corrosive, non-hygroscopic, of low-heat capacity, vibration resistant, permanently sanitary, permanently efficient, useful over a wide temperature range, low in thermal conductivity and are easy and economical to apply.*

There is a type of Fiberglas Industrial Insulation to meet every need, for furnaces, ovens, boilers and other heat source equipment; for air ducts, hot or cold lines, turbines, reactors or other units.

Find out now how you can make immediate installation savings and obtain long term economies by using Fiberglas Industrial Insulations. Write for complete information: Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, Ohio. Branches in principal cities.

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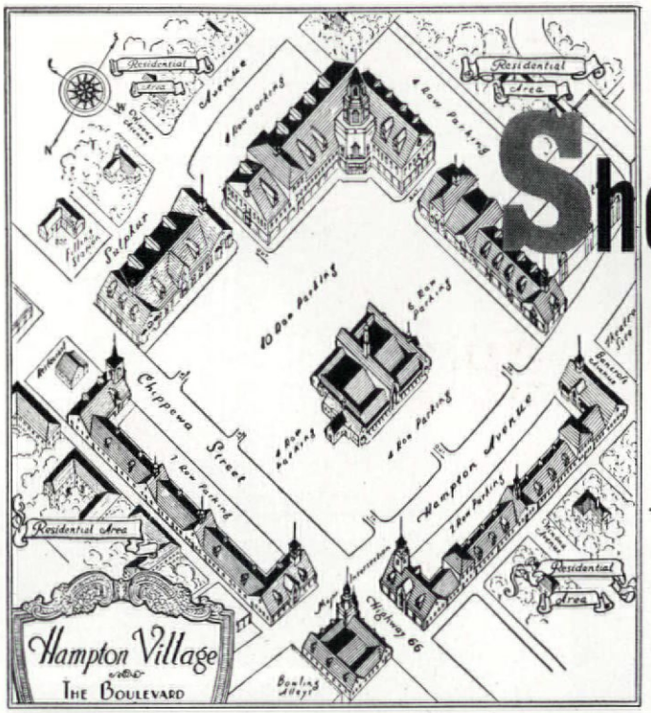
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METAL MESH BLANKETS



Shoppers' paradise will be

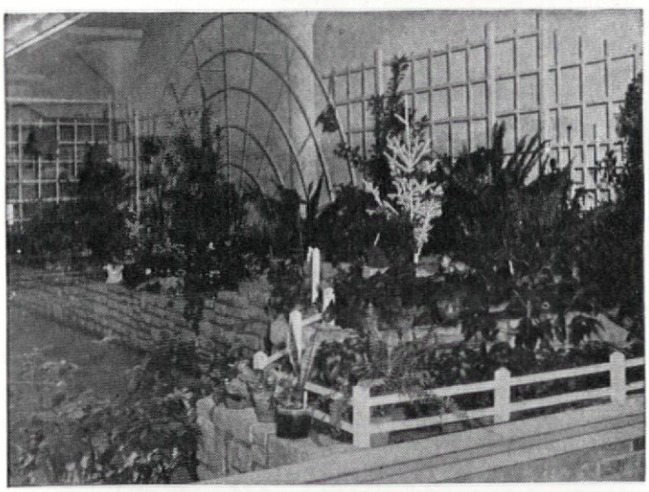
From snack bar to florist shop, Hampton Village's stores will be equipped with Servel All-Year Gas Air Conditioning

HAMPTON VILLAGE—located in the midst of one of St. Louis' most fashionable urban and suburban areas—is not only one of the largest drive-in shopping centers in America, but it's the *only* one that will be completely air conditioned. This $11,000,000 project covers an area equal to 14 city blocks... and will include 110 retail stores.

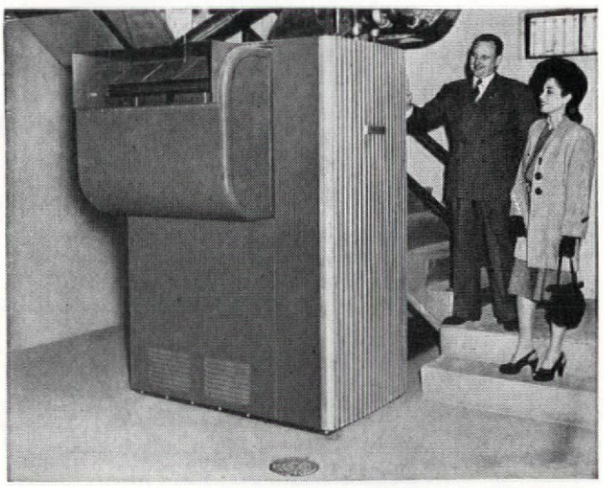
What's more, every Hampton Village shopper, salesman, and worker will enjoy the comforts and health-giving benefits of Servel *All-Year* Gas Air Conditioning.



Smartly styled snack bar and cocktail lounge. Servel Air Conditioner keeps customers cool in summer, warm in winter, and clean and comfortable all year 'round . . . helps boost patronage, too.



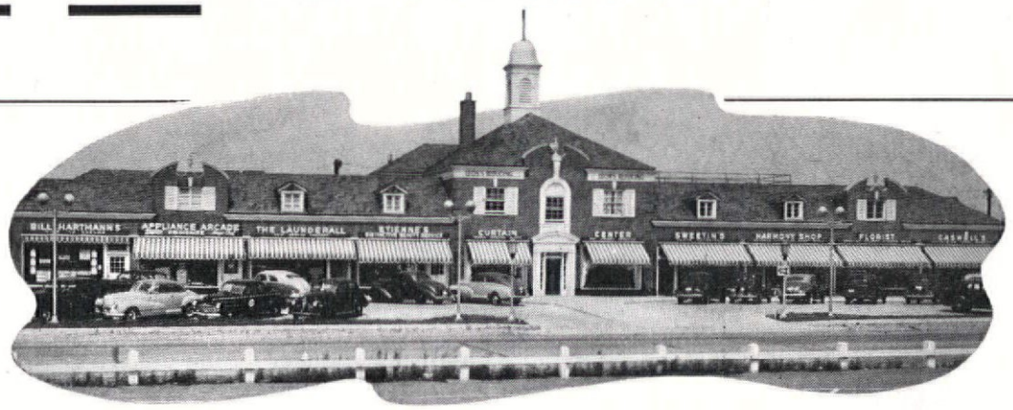
Modern-designed florist shop. Servel Air Conditioner pays big dividends by keeping flowers fresh and attractive—winter and summer.



Individual Servel Air Conditioners are installed in each store . . . and controlled by the tenant. Here's a typical basement installation.

Servel, Inc. is a member of the Producers' Council, and is engineering its products to conform with accepted practices in modular planning.

in St. Louis
All-Year Air Conditioned



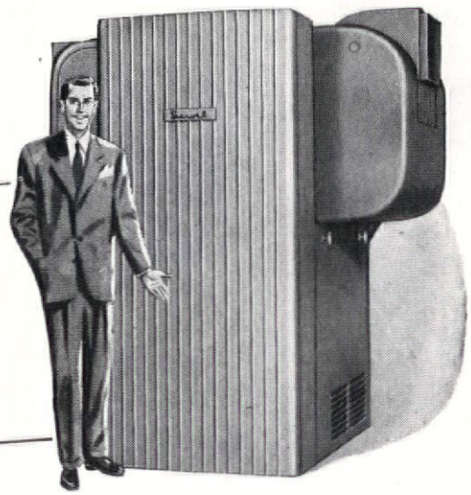
Each of the 22 stores now completed has its own self-contained Servel unit. Each tenant has complete control over the temperature in his store by simply using the Servel Selectrol. In summer, Servel circulates air that's refreshingly cool and free from humidity. In winter, the same unit provides comfortable, properly humidified warmth. All year long, Servel keeps the air clean and draft-free.

It's easy to see why Hampton Village chose Servel in preference to other kinds of air conditioning equipment. No other type provides the simplicity of control and flexibility of service. This is especially important in a super shopping center, where the air conditioning must satisfy the practical and comfort requirements of several different kinds of retail businesses.

For complete information on *all* the advantages and conveniences of Servel *All-Year* Gas Air Conditioning, see your local Gas Company . . . or write to Servel, Inc., 2710 Morton Avenue, Evansville 20, Indiana.

TRIED . . . PROVED . . . SUCCESSFUL
(From Boston to San Diego . . . From Bismarck to Miami)

The Servel *All-Year* Gas Air Conditioner is already operating successfully in hundreds of installations from coast to coast. Some have been running for more than seven years. The equipment is tried, tested . . . and *approved* by users everywhere.



Servel
All-Year GAS AIR CONDITIONER

ANNOUNCEMENTS

CHANGES OF ADDRESS

HUSON JACKSON and JOHN CALLENDER announce removal of their offices to 124 Washington Place, New York, N. Y.

DOUGLAS STONE and LOU MULLOY, architects are in new offices at 619 California St., San Francisco 8, Calif.

LIEF NIELSEN, architect, announces the opening of his office at 448 61st St., Oakland 9, Calif.

J. HAROLD MACDOWELL, architect, announces that his address is changed to Box 2357, Phoenix, Ariz.

MADDEN & CONNOR have moved their architectural office to 164 E. 154 St., Harvey, Ill.

KENNETH JONES, land planning consultant, is now located at 311 California St., San Francisco 4, Calif.

CHARLES MALTBY, architect, has moved to the Kirby Bldg., 246 N. Main St., Herkimer, N. Y.

ROBERT ELKINGTON, architect, announces that his address is now 7916 Kingsbury Ave., Clayton 5, Mo.

WILLIAM MACKAY, architect, is now practicing at 30 Colony St., Meriden, Conn.

BELATED CREDIT

We regret that the Gotham Lighting Exhibit pictured in our account of the Store Modernization Show (August FORUM, p. 13) was not credited to the New York Design Group, 140 E. 30th St., New York, N. Y.

MORE WARMTH

LESS WEIGHT!



Weighing only 4 ounces per square foot (3 inches thick), Cotton Insulation is 10 times lighter than other types of insulation tested in U. S. Department of Agriculture Laboratories.

Featherweight – flameproof – permanently fluffy – non-irritating – safe to handle – easy and simple to install – life-long in service . . . that's COTTON insulation.

These and many more test-proved advantages help you make easy sales and sure profits with this modern insulation for home and industry.

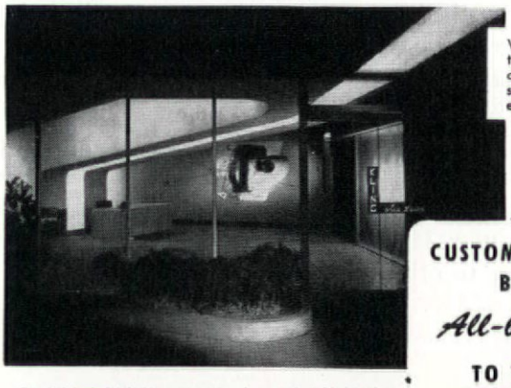
COTTON Insulation Approved

Look for this emblem when you buy.



FREE! Send for your copy of the new folder "Cotton Insulation." It gives you many suggestions for dramatizing the powerful sales story of this amazing product. Address National Cotton Council, Box 18, Memphis, Tenn.

COTTON INSULATION ASSOCIATION
NATIONAL COTTON COUNCIL OF AMERICA



View of entrance to new Kling Studios illustrating special lighting effects.

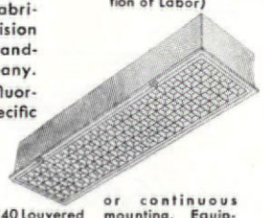
CUSTOM BUILT BY *All-bright* TO THE ARCHITECT'S SPECIFICATIONS

To All-bright it is a source of great satisfaction to have played a part in the lighting achievement embodied in Chicago's new Kling Studios.

Flexibility of design, inherent in each finely engineered fixture, enabled All-bright to meet the unusually exacting requirements established by the specifications. Other factors which affected the selection concern complete Production Control – an All-bright feature which insures a superior product. Under this control procedure every fixture is completely fabricated in our own plant under close supervision and in accordance with the strict quality standards defined in the policies of the Company.

There probably is a custom All-bright fluorescent exactly designed to meet your specific requirement.

CERTIFIED
ETL — (Electrical Testing Laboratories)
UL — (Underwriters' Laboratories)
AFL — (American Federation of Labor)

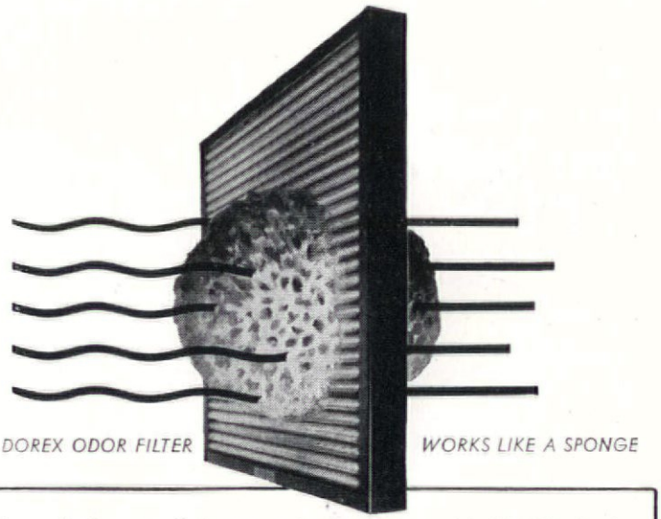


RECL-240 Louvered Recessed Type Fixture for individual or continuous mounting. Equipped for two 48" 40 watt lamps.

ALL-BRIGHT ELECTRIC PRODUCTS COMPANY
Manufacturers of Fluorescent Lighting Fixtures
LIGHT RIGHT WITH All-bright
2917-25 N. Kedzie Ave. Chicago 18, Illinois

Always Specify All-Purpose All-Bright

Are you spending too much for Air Conditioning ...and are you getting it?



DOREX ODOR FILTER — WORKS LIKE A SPONGE

Dorex Air Recovery Units save equipment, power, and fuel by this simple method: They change stale air to fresh air. Thus, you can recirculate more of the air you have already conditioned instead of throwing it away because it is stale and odorous. That means less outdoor air to heat or cool, less costly equipment, and less operating expense. Best of all—*nothing is added to the air.* Odors are removed by soaking them up with *activated carbon,* one of the most powerful adsorption materials known.

It may pay you to get the facts!

Air conditioning is basically a simple proposition. When the outdoor air you bring in is too hot, you cool it. When it's too cool, you heat it. Sometimes you dry it. Sometimes you moisten it. *All that costs money.*

Why not re-use more of this conditioned air and save money?

Most people believe that oxygen imparts freshness to air. Actually, this is a fallacy. Stale, stuffy air is caused, *not by lack of oxygen,* but by *odors*—just plain smells that originate from occupants and their habits (body, respiratory, tobacco, and cosmetic emanations), from beverages and food in preparation and serving, and from lubricating oils, solvents, etc., in industrial processes. So you bring in quantities of outdoor air to dilute the odors—*and you must continually condition this new air.* The amount of air you need to bring in determines, to a large extent, the size and cost of your equipment and your operating expense.

You *can* get better air conditioning for less money.

By removing the odors from your expensively *conditioned* indoor air, you can greatly cut down your need for *unconditioned* outdoor air. A Dorex Air Recovery Unit does just that for you—soaks up the odors in your indoor air—cuts your need for new unconditioned air in some cases by as much as 75%—cuts your fuel, power, and water cost substantially—and gives you all the fresh air you need into the bargain.

Do you have one of these 3 air conditioning headaches?

1. You *can't* keep the room cool enough (or warm enough) with your present air conditioning equipment, *and at the same time keep the air comfortably fresh.*

2. You *can* keep the premises cool enough (or warm enough), but you have to bring in a lot of outdoor air through the ventilating system, or you have to air the place out by opening doors and windows, to keep the premises from becoming stale, stuffy, and odorous.

3. You *can't* get outdoor air economically, or you *can't* get air that's *odor-free.*

If you are planning to put in air conditioning, investigate Dorex. It may enable you to keep the premises comfortable and pleasant with smaller equipment, thus saving on installation cost, as well as year 'round operating expenses.

Free engineering help available

Trained specialists will study your present ventilating problems and tell you frankly, without charge to you, whether or not it will pay you to install Dorex Air Recovery Equipment. Their services are also at the disposal of consulting engineers, architects, and air conditioning dealers.

Write us about any problem of your own on which we may be able to offer suggestions or estimate definite savings. For full information on Dorex Equipment, call the nearest district representative or write Dept M-60.

DOREX Units are being used in:

Airplanes	Buses	Hospitals	Libraries	Railroad Cars
Banks	Chemical Plants	Hotels	Locker Plants	Refrigerated Storage
Bars	Stores	Industrial Plants	Offices	Restaurants
Bowling Alleys	Film Mfg. Plants	Institutions	Oil Companies	Telephone Exchanges
Breweries	Food Processing Plants	Laboratories	Precision Mfg. Plants	Theaters

W. B. CONNOR ENGINEERING CORP.

AIR DIFFUSION • AIR PURIFICATION • AIR RECOVERY

112 East 32nd Street — New York 16, N. Y.

Representatives in Principal Cities • IN CANADA: Douglas Engineering Co., Ltd., 1405 Bishop St., Montreal 25, P. Q.

Here's Why-



Lokweave Gropoint carpeting by Bigelow in Lord & Taylor's Carpet Department.

Lord & Taylor uses Bigelow Lokweave in their own Carpet Department

1. Sturdy loop pile Gropoint stands up for years under heavy traffic.
2. Special weave eliminates sewn seams.
3. Tight construction resists dirt—is easy to clean.
4. No shading problems.
5. Exclusive process locks tufts in. They cannot pull out.
6. Installation costs are low—no waste yardage.
7. Eight colors to blend with all color schemes.

LOKWEAVE—the economy carpet for heavy traffic areas!

BIGELOW-SANFORD CARPET CO., INC.

140 MADISON AVE., NEW YORK 16, N. Y.

"Fine rugs and carpets since 1825"

RUGS & CARPETS BY THE BIGELOW WEAVERS Woven on Power Looms in U.S.A.

Fenestra STEEL FLOORS

better construction–faster construction



Simply interlock the large-area steel sections—and there you are, with a smooth, steel surface ready for concrete, mastic and wood or linoleum, or other floor surface of your choice. It's a sturdy floor, suitable for buildings of almost any description.

HIGH STRENGTH-WEIGHT RATIO. Achieved by the inherent strength of the cellular structure. Considerable weight is saved in the complete floor unit.

NONCOMBUSTIBLE. A factor of obvious merit for all types of buildings.

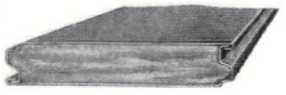
NO WARP OR ROT. A sturdy floor to start with—it *stays* that way.

SAVES CONSTRUCTION TIME. Large areas are laid in a short time, providing a safe working area for other trades. Field labor time and cost are effectively reduced.

The Fenestra Building Panels enable you to build not only floors but also walls, ceilings, roofs and partitions —faster and at lower cost. They are extremely versatile. See Sweet's (Section 3c-1) or mail the coupon for full information on all types.

TYPE D FOR FLOORS. Box beam formed by welding together two steel sections. Side laps interlock to form continuous flat surface. Cover plates available for open cells to provide two flat surfaces. Standardized in 16″ width. Depths 1½″ to 9″. Gages 18 to 12.

TYPE C FOR WALLS. Composed of two metal members pressed together, with felt at each side to prevent metal-to-metal contact. Filled with insulation at the factory. Standardized in 3″ depth and 16″ width, in 18 gage painted steel or 16 B&S gage aluminum.



HOLORIB ROOF DECK. Steel sheets reinforced by three integral triangular ribs on 6″ centers. Provides flat surface for mopped application of insulation and roofing. Sheets 18″ wide, in lengths as required for purlin spacing. Gages 18 and 20 are standard.



Fenestra
BUILDING PANELS FOR ROOFS WALLS FLOORS

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Building Panels Division
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Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

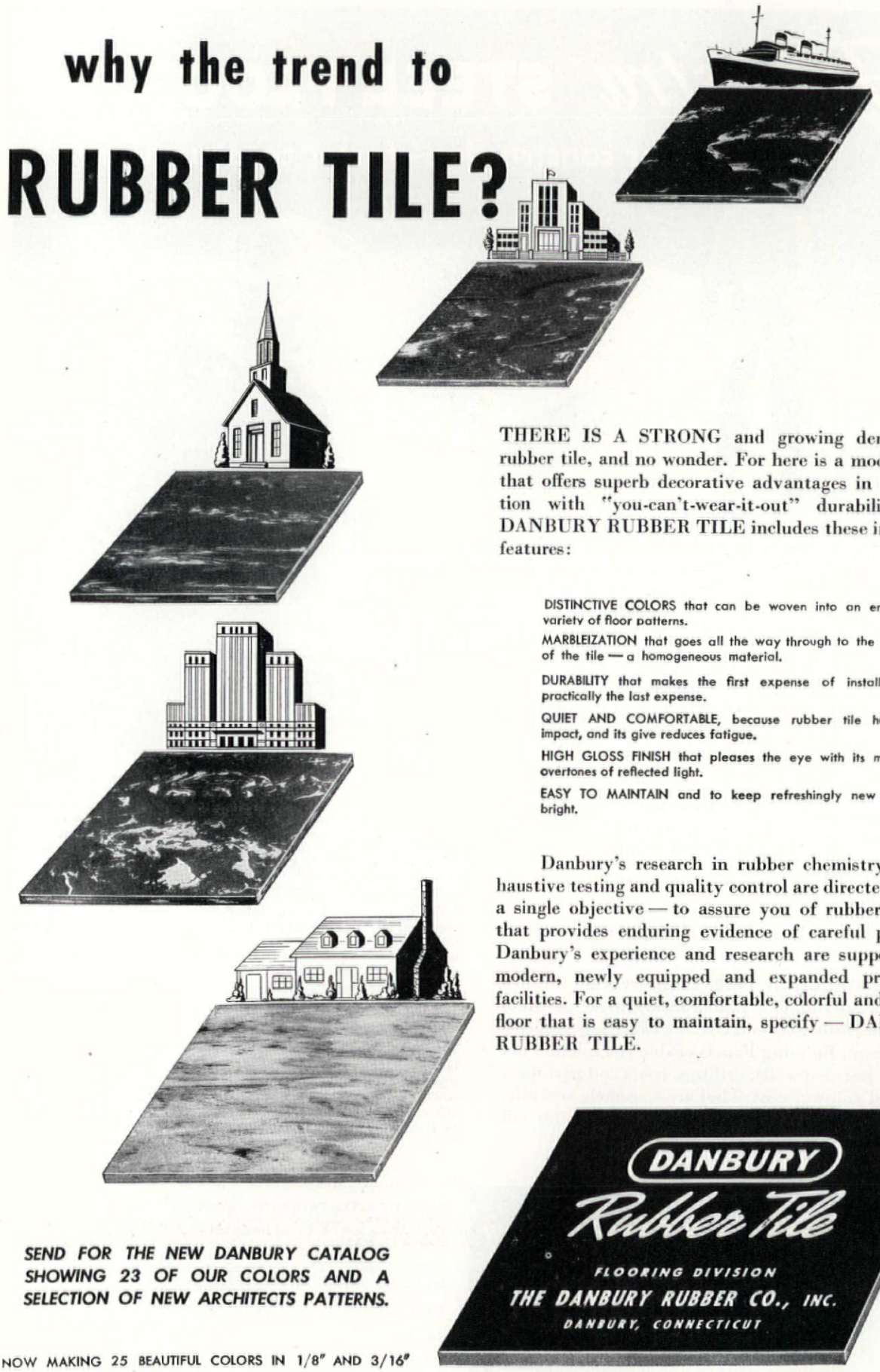
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Company_____

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why the trend to

RUBBER TILE?



THERE IS A STRONG and growing demand for rubber tile, and no wonder. For here is a modern floor that offers superb decorative advantages in combination with "you-can't-wear-it-out" durability. And DANBURY RUBBER TILE includes these important features:

DISTINCTIVE COLORS that can be woven into an endless variety of floor patterns.

MARBLEIZATION that goes all the way through to the back of the tile — a homogeneous material.

DURABILITY that makes the first expense of installation practically the last expense.

QUIET AND COMFORTABLE, because rubber tile hushes impact, and its give reduces fatigue.

HIGH GLOSS FINISH that pleases the eye with its muted overtones of reflected light.

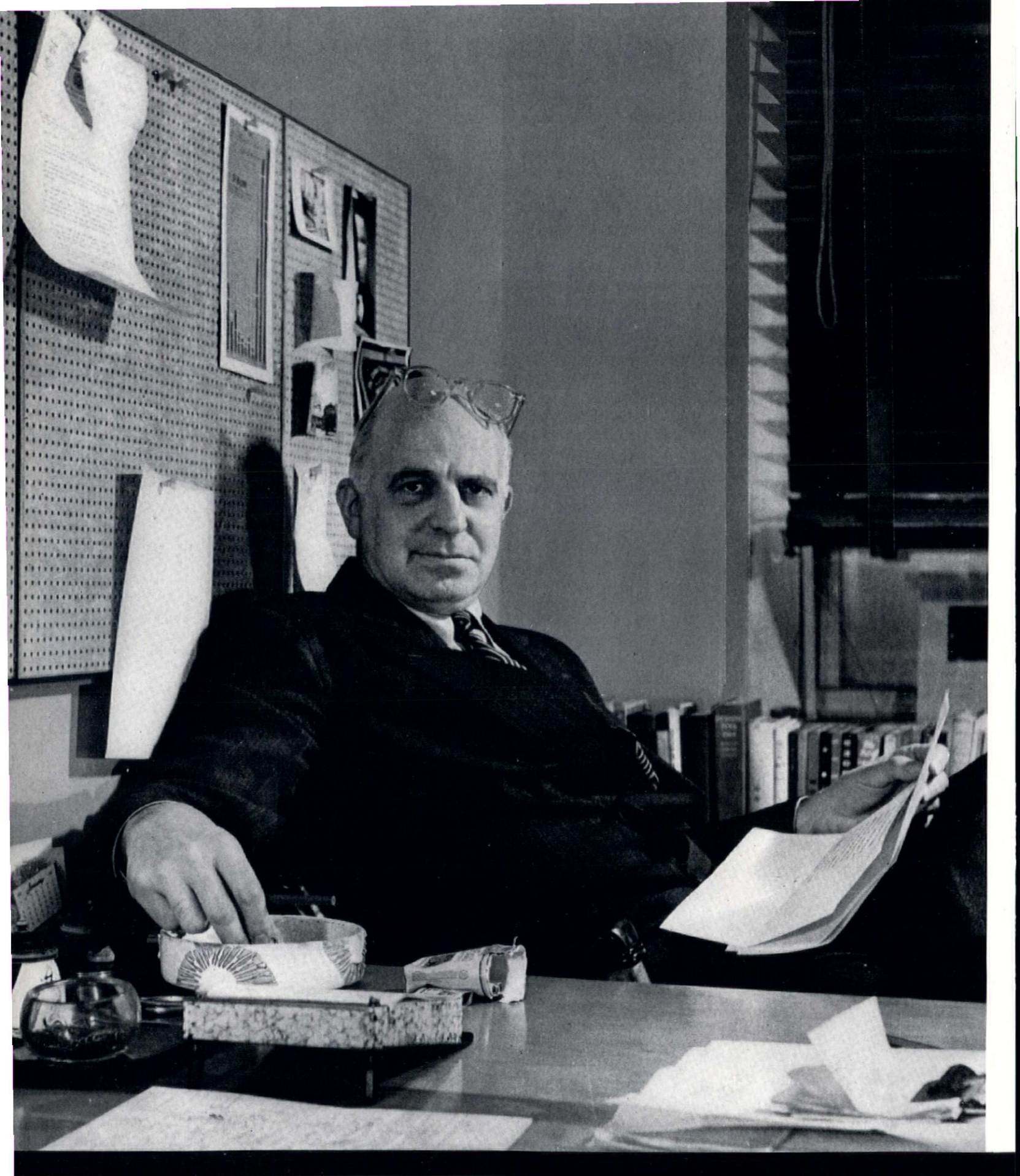
EASY TO MAINTAIN and to keep refreshingly new and bright.

Danbury's research in rubber chemistry, its exhaustive testing and quality control are directed toward a single objective — to assure you of rubber flooring that provides enduring evidence of careful planning. Danbury's experience and research are supported by modern, newly equipped and expanded production facilities. For a quiet, comfortable, colorful and durable floor that is easy to maintain, specify — DANBURY RUBBER TILE.

SEND FOR THE NEW DANBURY CATALOG SHOWING 23 OF OUR COLORS AND A SELECTION OF NEW ARCHITECTS PATTERNS.

NOW MAKING 25 BEAUTIFUL COLORS IN 1/8" AND 3/16"

DANBURY
Rubber Tile
FLOORING DIVISION
THE DANBURY RUBBER CO., INC.
DANBURY, CONNECTICUT



HOWARD MYERS *1894-1947*

HE was in the middle of things right up to the last. There had been lunch the day before with Henry Morgenthau (Morgenthau had wanted to talk about housing). There had been the lunch date for the next day with Wally Harrison and the president of one of the big life insurance companies (the president wanted to find out how to get the FORUM kind of building for his new headquarters). There had been the plan to drive out to see Ed Stone's newest house on Long Island. The night before, an advertising man for Revere Copper and Brass had been up to the apartment: they had planned a way to show how much value good design could still pack into a $10,000 house. A couple of young architects from Detroit had been there, too—just kids, really, in New York for the first time and loving it, because he was there to make them feel at home in the big world of ideas where the measure of a man was simply how he could think and what he could do.

He was only 25 himself when he came to work for "an illustrated architectural monthly" published by Rogers & Manson in Boston. Although The Architectural Forum had recently added stucco villas and frame Colonial country houses to its initial stock of brick construction, it was still reminding subscribers that it had been "For a Quarter Century the brickbuilder." It was 1919, and the first U. S. troops had sailed back into New York harbor, to march down Fifth Avenue under the Victory Arch whose Doric mass was designed by architect Thomas Hastings and approved as "highly dignified" by the Forum. Forum plates were largely devoted to the manorial estates which the millionaires had begun to build out in the country. But there was an occasional big story like McKim, Mead & White's Hotel Pennsylvania, whose "classic architecture" the Forum noted as a "happy departure from the Rathskeller style."

It was not the easiest time to sell advertising, because everybody was waiting for building prices to slump off after their wartime rise (they never did). But the new ad salesman was selling it, anyway, while the Forum reminded everybody of the "imperative obligation resting on capital to keep moving."

He always kept moving himself, and the one thing he couldn't tolerate (he had all of a big man's curious tolerance of littleness in others) was inactivity. He had had a bad heart for years but he had always ignored it. He was extremely impatient of any structural inefficiency and occasionally asked the doctors why they couldn't yank the damn thing out and put in a better installation.

For the last two months of his life he had lacked the physical strength to get to the office (nothing else could have kept him away), but he was there, anyhow—on the telephone as soon as you were there to answer it. That was the hardest thing to get used to, when you came to work the morning after he died. You kept thinking that you would pick up the telephone, and there he would be—jacking you up for something not done quite right, wisecracking about his own advancing enemy, reminding you to get going on a story he had sensed was coming.

That was when you began to realize dimly that he was more than a publishing phenomenon who could double in brass in all five departments. For a long time you had known that he was here, there and everywhere on the magazine—roughing up a lay-out ("You've got to make things big enough for people to see"), brightening a dull stretch of copy ("Never confuse circulation with readership"), backing up the advertising department (In the black year of 1934, he created a legend by selling 60 pages in one issue to a single company). But you had somehow missed the fact that it had never been a magazine to him at all. It was simply a perfect medium for his kind of creative art: it was a way to light the fire of a new idea in a thousand minds at once; it had been the way to span the gap between building technology, leaping ahead with the rest of industry, and languishing building design.

By 1925, when he became president and part-owner of the Forum, the widening gap between the materials and techniques available to building and traditional building design was easily read in the Forum's advertising pages. Ads offering light-weight steel beams that "could be carried by one man" rubbed elbows with a "French 18th Century Stairhall." Manufacturers of steel casements were insisting piteously that their product was "in perfect harmony with the dignity of Gothic architecture." Acoustical tile (in antique marble finish) was shown as a finish for Gothic vaults that were a reasonable facsimile of a 13th century ceiling.

The Tribune tower had gone up, to loom on the Chicago skyline like a massive Gothic mausoleum in which all that Louis Sullivan had done might be buried forever. But the lavish houses of the very rich had disappeared from Forum editorial pages. Building—as an integrated industry that might someday produce for all classes in an abundance that would match the abundance of the rest of U. S. production—was looming on the editorial horizon. Now there was an engineering section: the magazine started to talk about the new mechanical problems of multi-story construction and the new necessities of housing the machines that were spinning and molding and stamping out a standard of living the world had never seen before.

He was a large-handed guy by temperament, and he could never understand why the American abundance couldn't include everybody. Nobody had helped him much on the way up—when he got out of high school he went to work selling incinerators and studied journalism in night school. But, unlike many self-made men, he never concluded that it was a mistake to extend a helping hand to other people. At first this was apparent in simply a personal way: he was always finding somebody a job or selling a man with an idea to a man with the money to get it built. But later it broadened out to a big and natural channel for his whole effort. That was another way the magazine took hold of him, and he of it, until the man and his work became a single unit. He came to recognize that the field in which he worked was a strategic battleground in the great and successful American war against want and insecurity. And he was confident that the most backward of the industries could be developed and rationalized to guarantee for Americans what he called the Fifth Freedom—freedom from slums.

By 1932, when Time Inc. bought the Forum, the dreadful quiet of depression had closed over building. Except for Rockefeller Center, which was showing that the kind of city development architects dreamed about could happen if the developer got his hands on enough land, the Forum had little new building to talk about. But, as the governor of the State of New York, Franklin D. Roosevelt, said in an article he wrote for the Forum, there was plenty for building men to think about. This, the magazine was giving them in quantity. The first modern house (Howells & Hood) had appeared in the Forum as early as 1929, and the magazine had already climbed up on the platform it was never to abandon. For some time to come, its evangelism for contemporary design was limited largely to plans and models, but, even with these, it was

managing to convert a gradually widening sector of the building industry to its own view of universal salvation: an integrated industry built on better planning and construction, better land use, cheaper financing, revised building laws, large-scale production. It was in this critical year, when there was little to be heard from the industry itself except the pflup of collapsing real estate mortgages, that the Forum began to plug the factory-built house. The Forum said then (and has never seen any reason to change its mind since) that the industrialized house would someday be a dominant element in an integrated building industry.

Maybe it was the integrity natural to his own mind that made it so easy for him to see the whole picture for building. It never for a moment occurred to him that another mind might lack his own impatience to discover and exploit whatever promised better building for more people. Thus the problems which bedevil timid men—how not to offend this or that advertiser, this or that special interest group, this or that important person—simply did not exist for him. Once when a technical writer pointed out a flaw in a new product and a big advertiser arrived with a full executive delegation to demand better treatment, he said bluntly: "You can continue to advertise in a magazine that's honest—or you can get out and stay out." He was, as a matter of fact, one of the best advertising salesmen ever seen in the business. But this was not because he had any special mastery of the art of salesmanship, but because he believed, quite simply and honestly, that it was a privilege to talk to the men who read his magazine.

He knew many of them—real estate promoters, great architects, agency men, engineers, housing reformers, bankers. He was equally at home with all of them and bestowed on each impartially his enormous faculty of recognition. This was one of his rarest gifts. It was both as intangible and as powerful as sunlight. Whatever you had to say, whatever you could do, suddenly assumed great importance—because he thought it was important. Whether you were a famous architect or a struggling newcomer in the drafting room, you were, as soon as you met him, somebody —because he thought you were somebody.

This was one reason why he was a great editor and why he attracted a staff which quickly embraced his own view of the job and the way to do it. He had all of a perfectionist's ruthlessness in condemning shoddy workmanship—but his great snorts of disgust merely served to remind you that both you and he understood exactly what perfection was and that, in both your opinions, you were entirely capable of reaching it. And so you reached, issue after issue, story after story, and no matter how faulty your grasp on the radiant ideal, his confidence in your ultimate triumph never seemed to waver. This was so sustained and so implicit in all his dealings with you that after a while you began to believe it yourself. If anybody had the edge in his splendid impartiality of attention, it was young people. He was always inclined to overlook reputation in favor of Current Work. That was why he was so quick to recognize and introduce the young architects—unknown when he found them, a decade later the biggest names in the profession.

In 1936, the Forum devoted 26 pages to the houses of a young California architect, of whom few building men had ever heard. The Forum liked the way he thought about houses and printed it: "I like to work in direct, honest solutions, avoiding exotic materials, using indigenous things so that there is no affectation and the best is obtained for the money." The young man was William Wilson Wurster. There were dozens of others. There was the young man who would never be old: in 1938 the Forum produced the Frank Lloyd Wright issue, which not only opened a flood of new jobs to the world's greatest architect—but also diverted a generation of young American architects from their provincial veneration of the International Style to a rediscovery of the importance of richness, warmth and emotional values. After that, the big issues came fast—Albert Kahn, 101 Houses, Design Decade, Building for Defense, Buildings for 194X . . .

They always called him an idealist, just as those who wanted to turn the clock back tried to dismiss his magazine as idealistic. He was, of course—the most incorrigible kind: an idealist utterly realistic about people. He saw them as they were—the promoters and the crusaders, the profit-minded and the idea-minded — frequently petty, confused and selfish, but all driven by the universal urge to do things, to do better, to move forward. He saw them all moving in their separate ways, often working at cross-purposes, often on the wrong paths, and understood that it was all in the same general direction. And he believed that it was only necessary to see them clearly and interpret them to each other for each to comprehend the common end in his own particular way.

This, more than anything else, was what he did with the magazine. If the architect of the Twenties had been defiantly aloof from "commercialism," building money, on its part, had been equally disinterested in the architect for more than window-dressing. If it was important to show the work of the best architects to their professional brothers, then it was even more important to show it to the men with the money to get it built. If the planner lived in a world of his own, then the real estate promoter had to be shown that the principles of neighborhood planning paid off in 25-year dividends. If the merchant builder ignored the architects, then he had to be persuaded that purchase of architectural talent would net him more than he could save by using stock plans. If the U. S. was ill-housed, then the industry which served it had yet to be sold on the dollars-and-cents way to house it.

On this large job, the man and his magazine could lay claim to substantial progress. And in it lay what is given to few men: the tangible promise of the continuation of a life and work. He had set up the machinery and given it powerful impetus. It was unlikely that the enterprise he had built would loose his own unswerving sense of direction.

He had built a great magazine: in 28 years he had seen its circulation climb from 3,000 to more than 60,000, its advertising revenue increase ten times, its staff from 5 to 65. But the monuments he would have preferred to look at had already moved out of the pages of the magazine. They were the thousands of houses now built on the American land, opened to sun, air and view, planned for family living. They were the hundreds of factories, where machines were finally turning out houses that might soon put decent living within the reach of millions. They were the Lake County Tuberculosis Sanitarium, the Crow Island School, the Denver Children's Hospital, the Fresno City Hall, the Dodge Truck Plant. They were grass on Main Street in at least a few cities, planned neighborhoods in countless new developments. They were steam shovels and pneumatic drills, already pounding and gnawing into the diseased spots that lie at the city's heart.

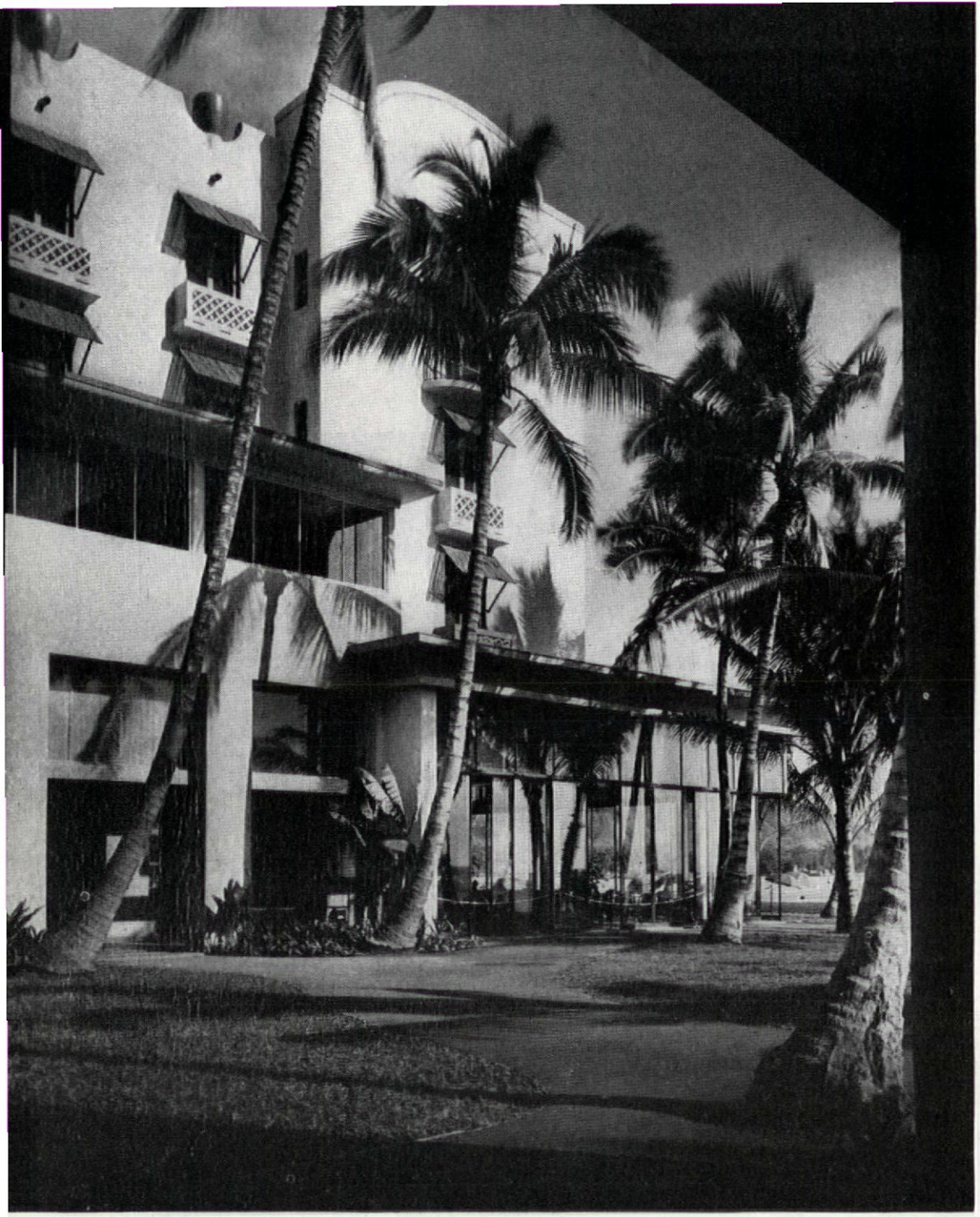
No man could write his epitaph. As his enormous personal force had eluded all boundaries, so his enormous influence eluded the limits of a summing-up. But perhaps it was the advertising men, from whose ranks he had rocketed, who, in their own terms, said it best: "He saw it big."

The Architectural **FORUM** Magazine of Building



AIRY AND COMFORTABLE, THE ROYAL HAWAIIAN'S BAR OVERLOOKS THE BRILLIANT BLUE PACIFIC

Maynard L. Parker Photo

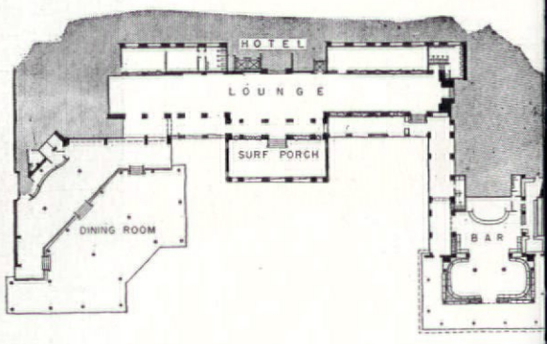


NEW ADDITIONS AT GROUND LEVEL DISREGARD MISSION STYLE OF ORIGINAL STRUCTURE

ROYAL HAWAIIAN HOTEL

GARDNER A. DAILEY, Architect

E. E. BLACK, Contractor



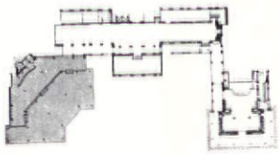
The Islands' famous hotel has been enlarged, refurbished, opened to its ideal climate

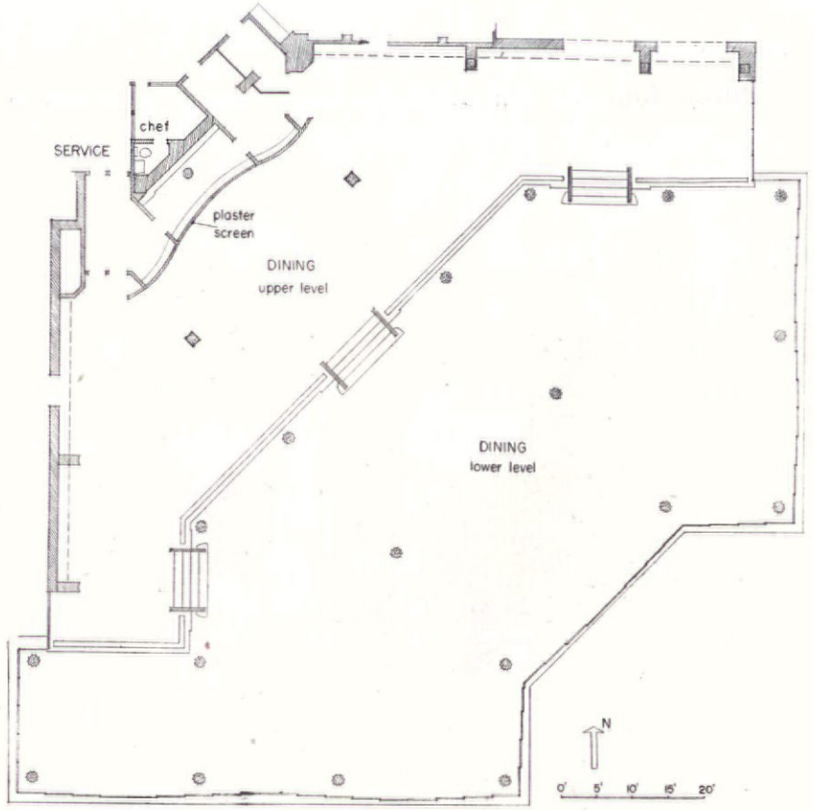
Sole gap in the Royal Hawaiian's career as tourist's paradise and honeymooners' Shangri-la of the western hemisphere was its rudely enforced use as a naval rest and recreation center during World War II. For more than three years, its wide, shimmering beach, where the privilege of sunbathing once cost bridal couples $90 a day, reverberated under the powerful precision of group calisthenics. Its ballroom and lounges were turned into beer bars, ice cream bars and dance halls. Pinball machines replaced cocktail tables. Officers paid $1 a day for the best accommodations with laundry and amusement privileges thrown in. An enlisted man could stay at the Royal Hawaiian for 25¢ a day while visiting princes abstained from visiting and the bride-of-the-year contented herself with a brief sojourn at Lake Placid.

Now reclaimed as a shrine of luxury and leisure, the doors of the Royal Hawaiian are again open to privileged travellers and offer an even more ideal environment for pleasure and relaxation. The major part of its renovation consisted of new dining room, bar and lanai, each open on three sides and jutting out toward the sea.

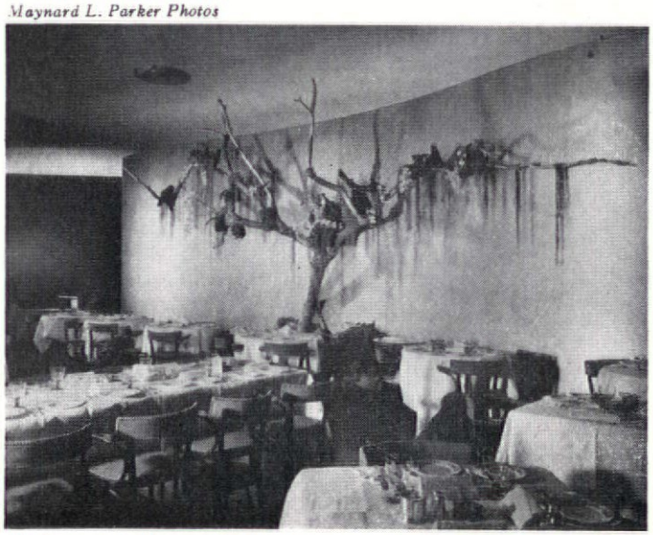
The interior was handsomely redecorated. In the public rooms the schemes are rich and dramatic but always restful. Black terrazzo floors have been used throughout and black and gold are consistantly repeated in the decorative scheme to accent the predominant but soft grays, greens and corals. Decoration was under the direction of Frances A. Elkins.

Additions to the existing structure consist of reinforced concrete roof slabs supported by star shaped, reinforced concrete columns. The roof slab cantilevers several feet beyond the columns which do not show on the exterior.





Maynard L. Parker Photos

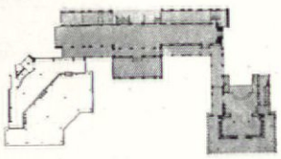


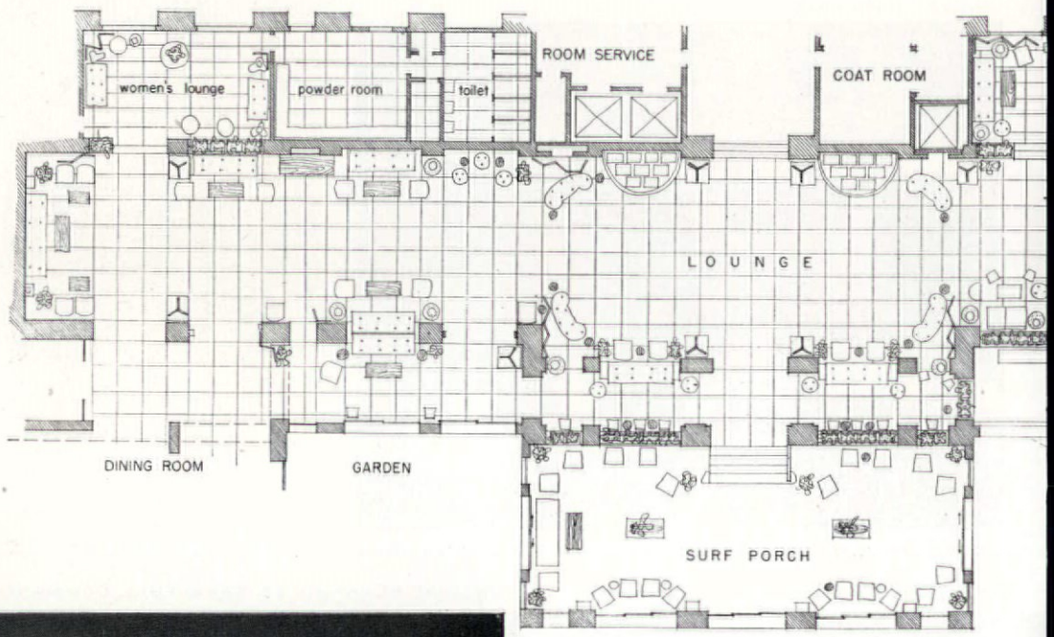
NOVEL "ORCHID TREE" IS FEATURED IN THE DINING ROOM

THE DIAGONAL LAYOUT OF THE DINING ROOM WAS PLANNED TO TAKE FULL COMMAND OF THE VIEW OF DIAMOND HEAD AND THE SEA



Public lounges that not long ago served as recreation rooms for battle weary sailors resume their traditional



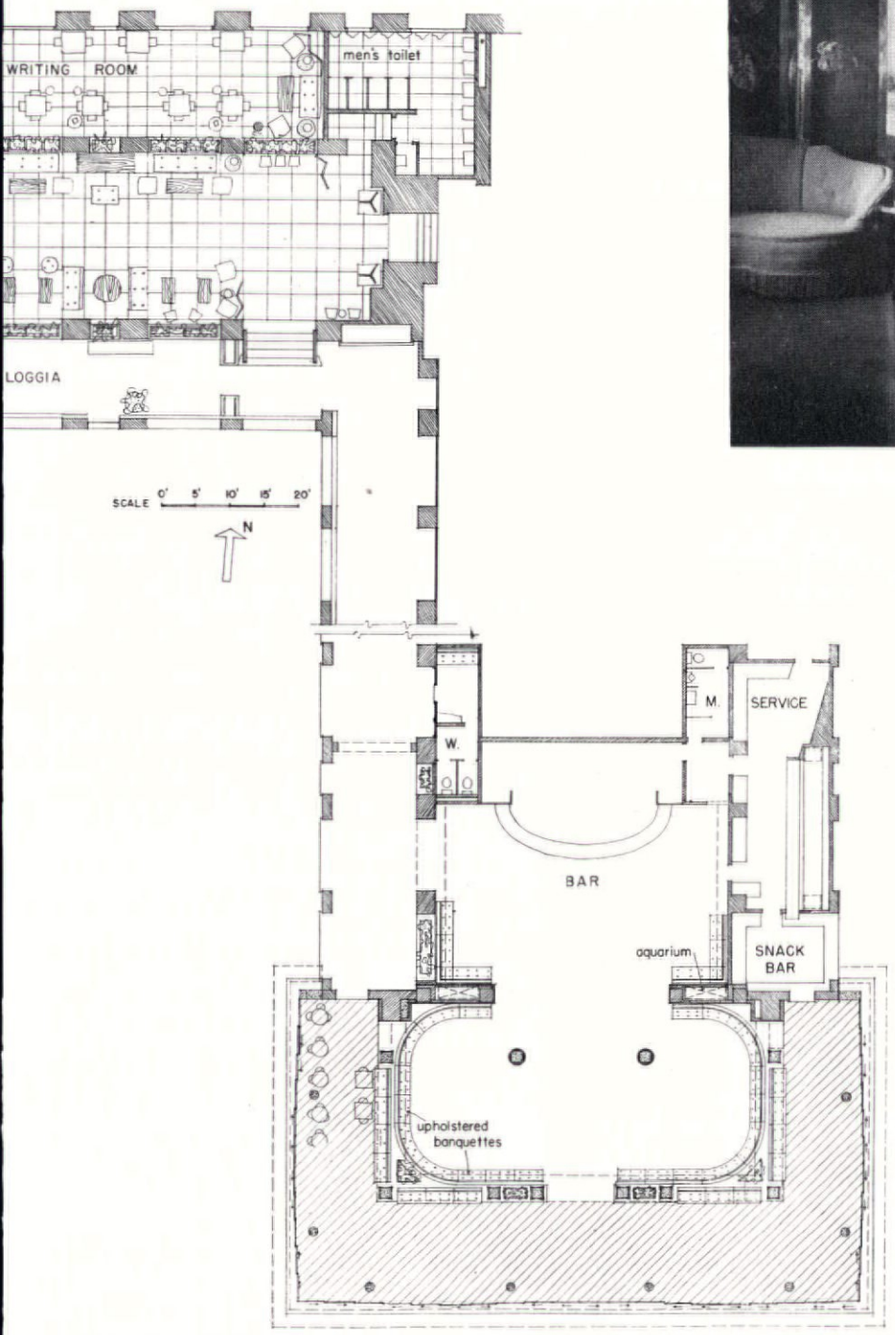




SURF PORCH consists of an inner room and a lanai for the use of bathers. Woven teak blinds covering upper section of glass were designed by Dorothy Liebes, sculpture (below) by Remo Scardigli.



air of opulence and elegance.

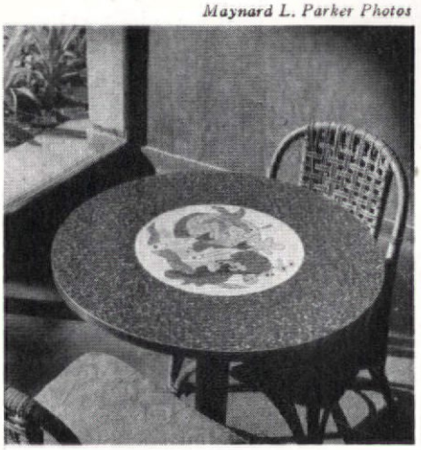


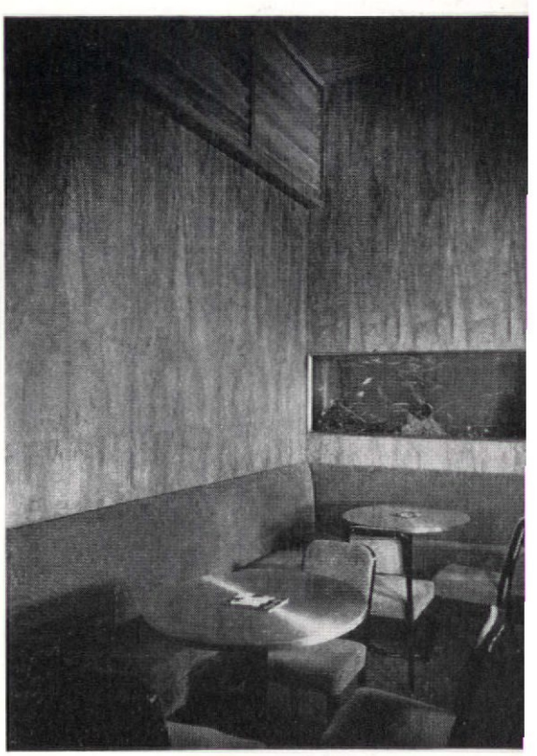


LOUNGE is decorated in celadon green and pearl gray with accents of coral. Gilded masks of Polynesian inspiration by Remo Scardigli (opposite page) are used as sources of indirect lighting for this room.

Maynard L. Parker Photos

BAR features a group of tables designed by Margaret Bruton. These are executed in brass and brightly colored terrazzo, representing abstracts of marine life. Recessed aquarium adds a note of interest. Walls are covered with flexible Burma teak veneer.



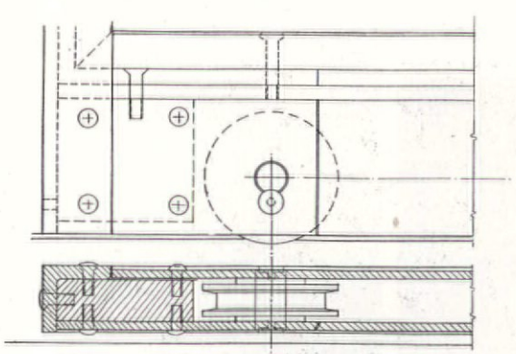


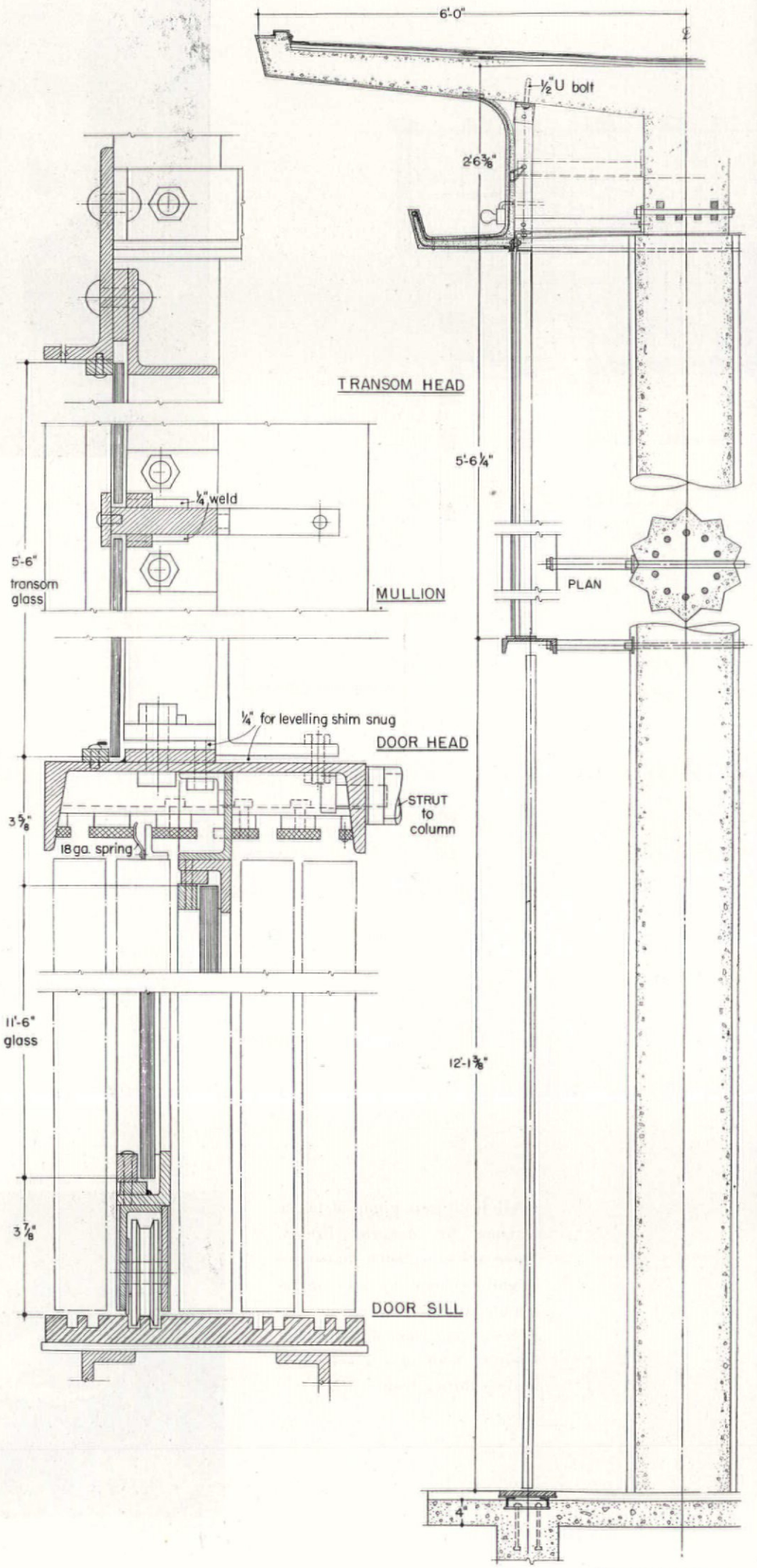
Fully opened to the air and view, principal rooms on the waterfront have subtle exterior lighting

Glass walls are movable and can be nested, six deep, at specified intervals. Both steel frame and glass were specially manufactured for the job. Doors operate on a bronze track.

Exterior lighting at the Royal Hawaiian has been skillfully developed to enhance the effectiveness of the glass walls. A wide projecting cove above the transom strip reflects light from the ledge below, and creates soft even illumination for the surrounding grounds. This reduces interior reflections which would have morbidly blacked the glass panels at night, and thus permits the view from the dining room and bar to be as effective by night as by day. Spot and flood lights are used only for special dramatic effects.

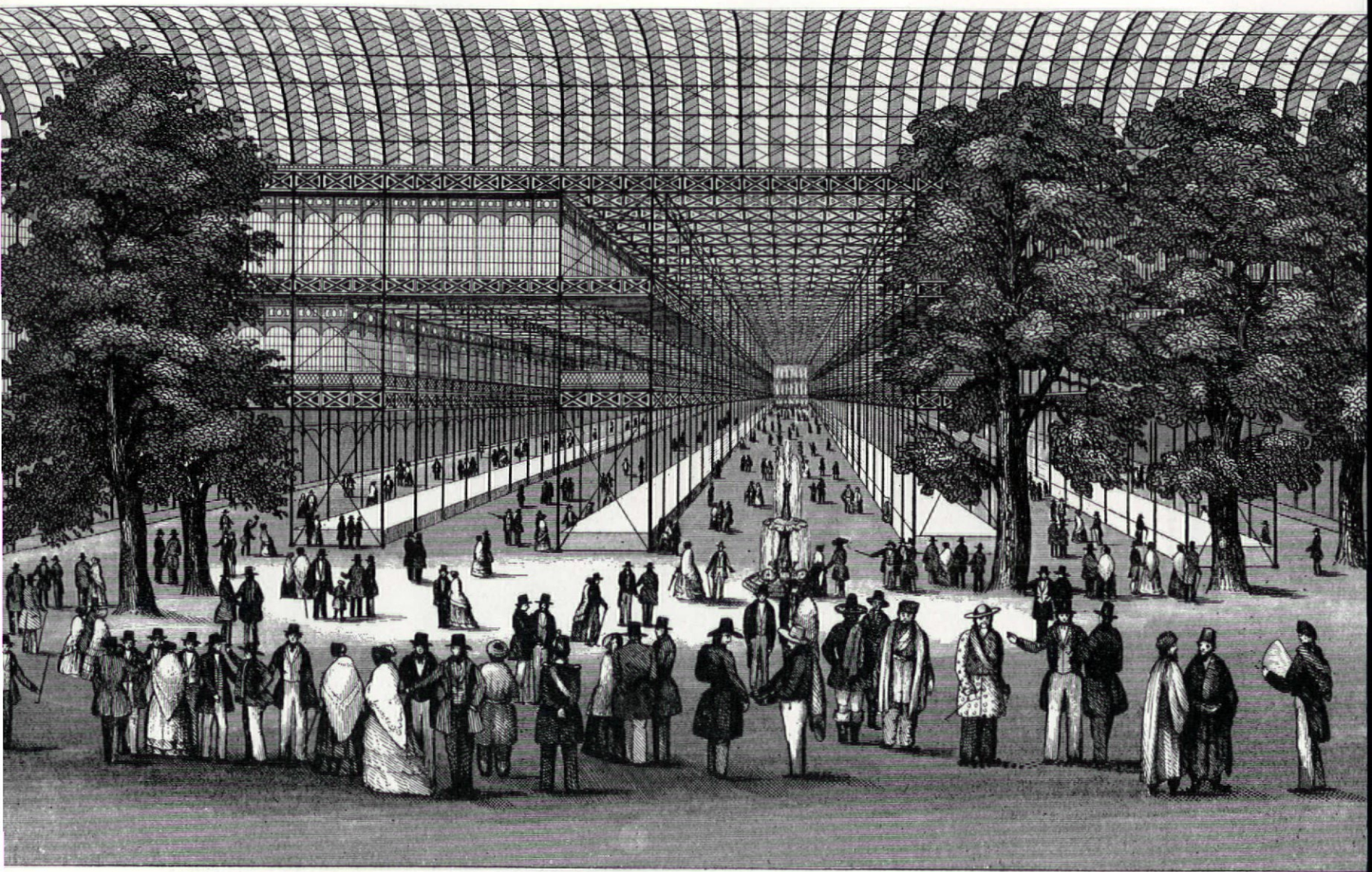




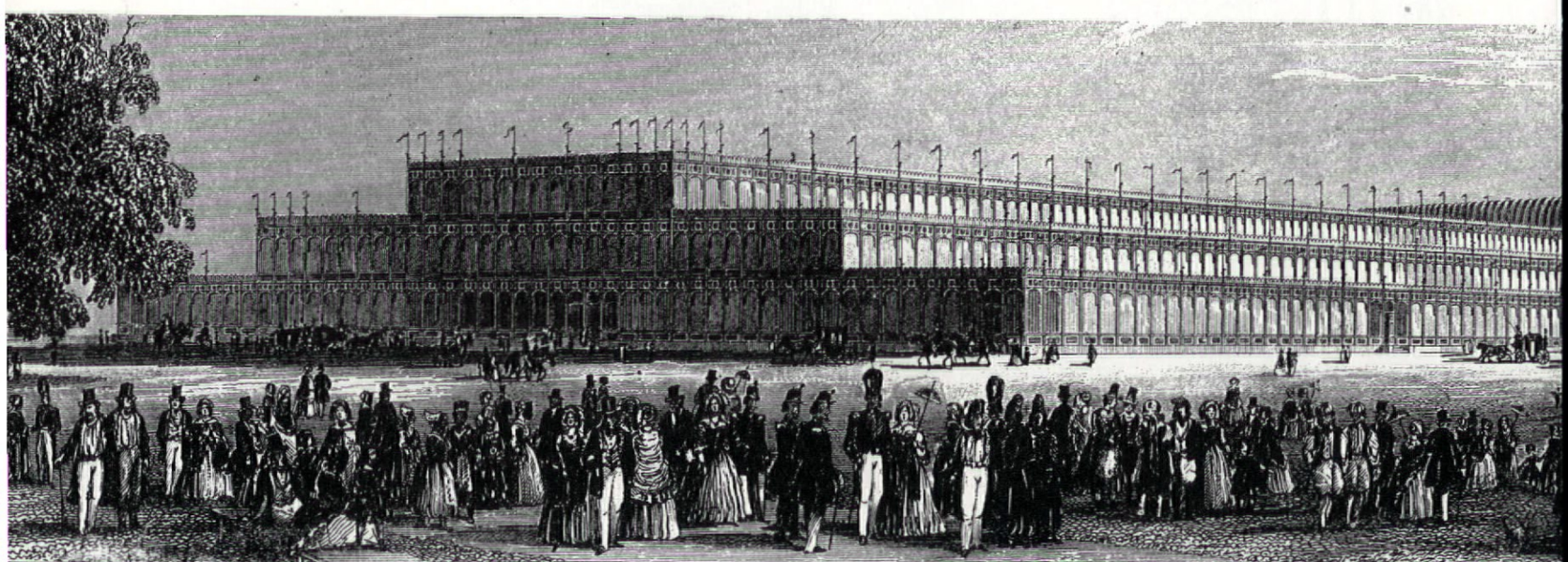


Maynard L. Parker Photo →





1851 PAXTON'S PALACE "introduced the structural concept of strength



The Bettmann Archive

The Palace the Bridge and the Tower

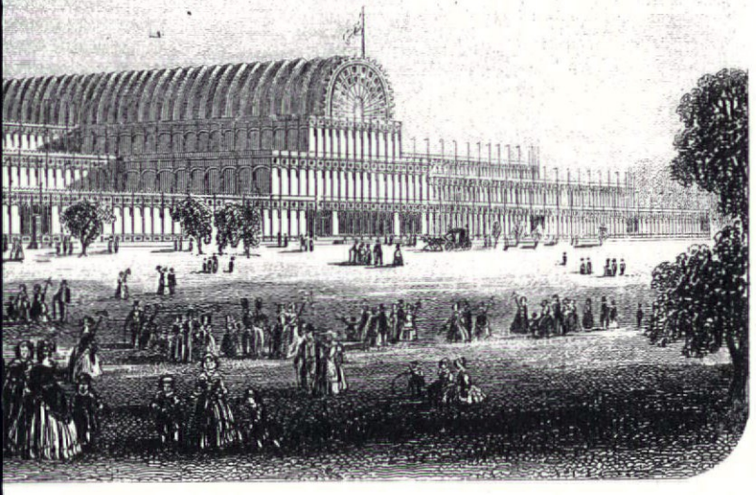
FORUM editor James M. Fitch, in a chapter from his forthcoming book "American Building"*, discusses the 19th Century's "golden leap" in structural design.

THE NINETEENTH CENTURY saw three great developments in structural theory: the enclosure of great areas in the Crystal Palace; the spanning of great voids in the Brooklyn Bridge; and the reaching of great heights in the Eiffel Tower. These structures are sufficiently great in themselves, each marking the full-flowering of a new structural concept. But they are noteworthy in another respect in that they constitute historical proof of the relationship between structural theories, materials, and techniques. The interaction between these three factors is constant and dynamic. Their relation is such that an advance in one naturally and inevitably affects the other two; and this reciprocal action is the mainspring of evolutionary development.

Historically, the three factors—theory, material, technique—have seldom been in exact equilibrium at any given moment: that is, there have been few times when a lag in one did not prevent advance in the others. Occasionally, however, under the accumulating pressure of social change, a structure appears in which all three have combined at a high level to produce a radically new type. To borrow a term from the anthropologists, there has been a *leap* forward. Such structures were the *Palace*, the *Bridge*, and the *Tower*. These leaps involve not merely blind social and economic pressures. Specific human agencies are also required; live men who, by the very breadth of their understanding, are able to master all the factors involved and force the project through to completion. Such men were the designers of these three famous structures: Joseph Paxton, the English horticulturist; John Roebling, the German-American cable inventor; and Gustav Eiffel, the French engineer. The shadows of these men and their structures fell athwart the whole Western world; and nothing which came after them could remain entirely unaffected, for they had tackled and brilliantly mastered three eternal problems in structure.

Paxton, Roebling, and Eiffel were men of the new world of nineteenth-century science and thus closer to us who follow than to those who preceded them. Together they constitute an organic continuum which spans both the century and the century's chief centers of intellectual activity: London, New York, Paris. Their thinking and their works were truly supra-national in effect. Like Darwin and Marx, Morgan and Pasteur, they were citizens of world thought, at once the creators and the first great products of modern scientific theory and practice. They differed from their predecessors in this important respect: they not only worked in the field of science; they had also begun to think scientifically. Jefferson's fertile intellect might be stimulated by contemporary investigations in natural phenomena; Fulton, from God only knows what accidental contacts, might putter around with his steam boiler until the boat finally propelled itself; and Franklin might risk the thunderstorm with his kite and key. Yet they lacked in their investigations the methodology, the rigid standards, the planful accumulation of fact, which characterizes modern science. Theirs was not yet the world which, as Paxton himself put it, 'requires [of the scientist] facts instead of empiricism, and prefers scientific accuracy to blind practice.'

hrough precision instead of mass."



The Palace

OF the three men, Paxton was the least well-educated and, as a consequence, the closest to the methodology of the preceding century. Self-made in the strictest sense of the word, Joseph Paxton began the first of a series of apprenticeships on the great country estates of England at the age of fifteen. Under ordinary circumstances, this training would have led to the status of head gardener, but both his aspirations and abilities were much higher. The London Horticultural Society had recently leased the gardens of the Duke of Devonshire at Chiswick and begun there a program of reconstruction and improvement; and what was to prove the turning point in Paxton's whole life came when, in 1823, he obtained employment there.

Work for a learned society offered him much greater perspectives than gardening for a country gentleman. The whole direction and emphasis of the Society lay in extending and organizing botanical and horticultural knowledge, rather than in mere competitive display. Young Paxton throve astonishingly in this environment. In three years he was a foreman at Chiswick, though his salary was a mere eighteen shillings a week. He was apparently confident that he could do much better and was on the point of sailing for America when the same Duke of Devonshire, now president of the Society, offered him the post of superintendent at his country seat, Chatsworth.

Because of the wealth and prestige of the Duke, this offer could scarcely have been topped by any but the royal house itself. Devonshire was one of the leading patrons of horticulture; in addition he seems to have been

* *American Building, the Forces that Shape It* by James Marston Fitch; Houghton Mifflin Co., Boston, Mass. Illustrated with photographs and drawings. Price: $5. On sale October 28, 1947.

an ideal employer, for he allowed Paxton great freedom and ample funds.[1] During his long association with Chatsworth, Paxton achieved the status of both gentleman and scholar. In the former capacity he made the Grand Tour of Europe and Asia Minor with the Duke; in the latter, he became editor of the *Magazine of Horiculture and Directory of Flowering Plants*. This publication appeared first in 1839, handsome in make-up and professional in content. The very first issue reflected the curious conflict in the lowly born Paxton between snob and scholarly democrat: he dedicated it with flowery servility to the Duke,[2] but in his introduction he pledged himself to keep his material 'as plain and intelligible as possible,' avoiding Latin and botanical terms except where absolutely necessary, so as to make the magazine useful to the widest possible audience.

IF there is little in Paxton's work prior to 1851 to indicate a latent genius in building design, there is ample evidence of an intellect of wide range and great profundity. In his paper, 'Influence of Solar Light on Vegetation' he anticipates the discovery of the ultra-violet band, speculating that there must be 'rays issuing from the sun [which are] distinct from the rays of heat and light — rays of chemical and magnetic influence; and who can tell to what extent glass may not intercept and transmute these rays?'[3] He was deeply interested in smoke prevention, carrying on experiments at Chatsworth in improved methods of combustion to reduce smoke and increase heat production. Here also he installed a mechanical stoker of his own design. He wrote a paper on vegetable physiology, several on the influence of climate upon plants. He took exception to the Linnaeus system of botanical classification. His interests, as reflected in his work and in his magazine, were wide and progressive.

In 1832 he designed his first orchid house and, four years later, a conservatory 300 ft. long. Neither was noteworthy; they did not differ much from those glass houses which English noblemen were building all over the countryside. In his magazine he published many designs (his own and others') of glass houses, pergolas, gate houses, and workmen's cottages which showed his familiarity with such building problems. This experience may partly explain the Crystal Palace, but only partly. Indeed, with the single brilliant exception of the Palace, Paxton's work in both garden and building design seems to have been commonplace. Before this astonishing success, his interest lay more in the great botanical discoveries and controversies of the period than in pretty landscapes. And after the Palace brought him knighthood and fame, his designs—like his dedications—showed complete subservience to the doubtful esthetic standards of the Victorian gentility to which he had just been admitted.

Whatever else he was, Paxton had become by 1849 the leading gardener of the realm. For in that year he was successful in bringing to flower, for the first time in Europe, the famous water lily *Victoria Regia*. This was a significant accomplishment in more ways than one. The lily was an exotic, an import from equatorial Africa, and though it had been grown in many tanks in Europe, it had never bloomed. To bring it to flower was a problem of the most precise environmental control and Paxton correctly saw it as such. It would have to be housed in a building which could duplicate its natural habitat; and, as Paxton pointed out, this was no easy matter; 'such plants require more light than glass will transmit and yet more heat than our open sky affords, and are consequently most difficult of culture. . . . They require a glass that transmits all possible light.'[4] It was to be many years before industry could provide a glass which was not opaque to ultra-violet light; but somehow he solved the problem, for the lily bloomed. 'Scientific accuracy and not blind practice' enabled him to study the natural circumstances of every plant, 'considering their wants, whether as regards light, heat, air, moisture, or soil.'

Two years afterward, when the Palace opened its doors to a dazzled world, it was clear that Paxton had studied another aspect of *Victoria Regia:* its structure. This remarkable plant had pads which measured 8, 10, even 12 ft. in diameter: construction strong enough to support a boy yet light enough to float. They were marvels of economy—a network of radiating and circumferential ribs which supported, and were in turn stiffened by, the thin, tough membrane of the leaf itself. The parallel between this design and the structural system of the Crystal Palace is inescapable. Cast iron and glass replace rib and membrane—though the materials necessarily differ, the principle is the same.

When the Palace was opened in 1851, it created an immediate sensation. The light and airy framing, the glittering curved vaults of glass, the full-grown trees, the fountains and tropical flowers which bloomed inside, the printing presses and harvesters and sewing machines — this juxtaposition delighted the Victorian mind. By some miracle of history, the first great exhibition glorifying modern industrialism was housed in a structure which more perfectly expressed its potential than any which ever followed it. The canny Queen recognized this—even if a few years before, in the much more sensitive area of government buildings, she had chosen Charles Barry's Gothic style for the Houses of Parliament — and promptly knighted the designer.

THE building was, indeed, one of great beauty and many extraordinary features, not least of which was the fact that it was designed in *nine days*, after 233 other designs had been rejected. It was the first *prefabricated* as well as the first *demountable* building of modern times. Bolted together, and thus easily taken apart, Paxton himself dismantled it, moved it to a new site, and re-erected it there in 1852-54. It was far and away the largest single building the world had seen—989,884 sq. ft. of floor space under 17¾ acres of roof. About 900,000 sq. ft. of glass went into it, and more mass-produced columns, girders, and beams than in any previous structure. It was erected in the unprecedentedly brief span of six months.

These statistics do not succeed in conveying the full dimensions of Paxton's accomplishments. The historic significance of the Crystal Palace lay in the fact that it was a huge shell of relatively no weight and no thickness. *It introduced the structural concept of strength through precision instead of mass.* His lily-pad system would not have made sense on a single plane, since it had no water surface on which to float. To stiffen it he had either to corrugate it—the 'ridge-and-furrow' he had long ago perfected—or bend it, as he had in the barrel vault of the great Conservatory at Chatsworth. In the Palace he did both. He used the vault only on the shorter transverse axis (it was only in the reconstructed Palace at Suydenham that both axes were vaulted), but with magnificent effect. Here was a vault which was the antithesis of its Roman predecessor—a thin curved membrane stiffened by its very shape. Elsewhere, on the long, stepped-back wings, he used the ridge-and-furrow—the same principle, in a sense, on a much smaller scale.

Nothing was more natural than for Paxton to turn to the iron ribs and glass panes of his many greenhouses. He had tried wood as a substitute for iron because, 'for our own part, the expense of metal has been one and, we may say, the chief objection to its use.' He had had to discard wood, however, because of its bulkiness. Yet the Palace is no mere blow-up of his earlier designs: it is a new and daring concept of structure. Frederick Kiesler has called Paxton's attempt to fashion a structure by such literal application of Nature's design principles essentially romantic.[1] This does injustice both to history and to Paxton. Viewed in its context of Victorian England, his design is profoundly scientific. His comprehension appears inadequate or incomplete only in relation to

[1] Paxton confirmed this years later, in 1851, at a dinner in his honor after the Crystal Palace was opened: 'By his confidence and liberality I have had placed before me ample means for various experiments without which there would never have been a Crystal Palace.'

[2] Each succeeding volume was similarly dedicated, and never to anyone less than a duchess. Since the magazine must of necessity have been subsidized, however, we can understand these archaic attentions to the patrons.

[3] *Magazine of Horticulture*, vol. IV.

[4] *Magazine of Horticulture*, vol. VI.

[1] Frederick J. Kiesler, 'On Correalism and Biotechnique,' *Architectural Record* (September, 1939), p. 68.

what we know today. It must be remembered that Paxton shared with Darwin, whom he greatly admired, the problem of perfecting single-handed a theory based exclusively upon first-hand observation. His investigations must rank among the few truly great ones of architecture.

The Palace left Sir Joseph with a world-wide reputation as a designer, a snug seat in Parliament, many important commissions. Ruskin was his only hostile critic, though the landscape architects seem to have nourished doubts as to his ability. Yet in the 14 years between the Exposition and his death in 1865, he was never to turn out another design comparable in any way with his masterpiece. These later buildings, such as his great house for Baron Rothschild, show no kinship with the Palace, and scarcely as much competence in the accepted idiom as those of his contemporaries. To dismiss the Palace as a flash in the pan is impossible, however: rather it must be understood as the only flowering of Paxton's special genius in a peculiarly fortunate set of circumstances — the same sort of event, in fact, as the flowering of the African lily.

These circumstances were: a concrete and specific program calling for continuous, well-lighted floor space; sharp limits to the funds and time available; the suitability of the structural system on which he had already spent so much time and energy. Even the nine days allowed for preparing the drawings were auspicious. They allowed no time to worry about appearance, so that the finished building shows his beautiful ignorance—one might almost say innocence—of current architectural controversy over idiom and cliché. As a result, the finished building was as lean and functional as a greyhound, revealing only in its smallest details (column caps, tie bars, brackets) the imprint of Victorian taste. In his later work these controlling factors were missing and without them he was lost—an ambitious, self-made man in an overawing environment. Architecturally, Paxton was destined to flower but once.

One of the enthusiastic assumptions of the Victorians concerning iron construction in general and the Palace in particular was destined to prove quite fallacious — that is, that a fireproof system had at last been perfected. Fire had always been one of society's greatest hazards and fire resistance had naturally been a most sought-after property in buildings. Unfortunately, it was seldom achieved. Until the appearance of mass-produced metals, wood had been the only building material with high tensile strength. All but a microscopic proportion of nineteenth-century buildings employed floor beams and roof trusses, and these were necessarily of wood. Thus, when mass-produced metal columns and beams appeared in mid-century, they were uncritically acclaimed. This enthusiasm was based upon the fact that neither iron nor glass will burn. It conveniently overlooked the corollary that both will melt. Under a given set of conditions, a wooden beam is more firesafe than a steel one: the steel will deform and collapse under a heat which only chars the wood. To reduce the strength of a wooden beam, you have to reduce its cross-section. Paxton's structure served as inspiration for an inexpert copy in New York City in 1853. It was completely destroyed by a 20-minute fire, and in 1937 the same fate overtook the Crystal Palace itself.

The Bridge

EXACTLY 20 years before the Crystal Palace, John Augustus Roebling had migrated to Pennsylvania. Neither the time nor the place was accidental. The coal fields were roaring into action, Pittsburgh was already the center of a new iron industry, and canals hardly completed were proving themselves inadequate to handle the freight. Very shortly a network of railroads would be flung across the Alleghenies. The bridging of thousands of mountain streams would become a pressing problem. There would be neither time nor money for elaborate masonry structures—even had there been a masonry tradition in this country, which there was not. In addition, the size of the rivers, with their ice floes and turbulent spring freshets, made unobstructed spans a necessity. Nor could the huge cantilevered trusses appear until after mass production of standardized steel members began in the rolling mills of the seventies and eighties. In such a context, Roebling's experiments with tension structures was inevitable.

John Roebling did not, of course, invent the suspension bridge. On the contrary, as an engineering student in Germany, young Roebling had made the chain suspension bridges of Germany and Switzerland the subject of his thesis. Neither did he actually invent steel rope. What he did was to force the parallel development of both bridge and cable. Almost alone for nearly half a century, he forced their simultaneous improvement in a series of increasingly spectacular suspension structures. Theory, material, techniques: each felt the impact of his intellect. The potentials he saw in the suspension bridge could only be exploited by a tensile material far superior to hempen rope or hand-forged chain. He achieved the first wire cables; but these in turn implied new fabrication and assembly techniques. Having perfected the latter, he could then turn his attention to still more daring designs. This ascending spiral reached its most polished statement in the Brooklyn Bridge—a design which has never been surpassed (and only recently equaled in such bridges as the Whitestone in New York and the Golden Gate in San Francisco) in its ultimate simplicity.

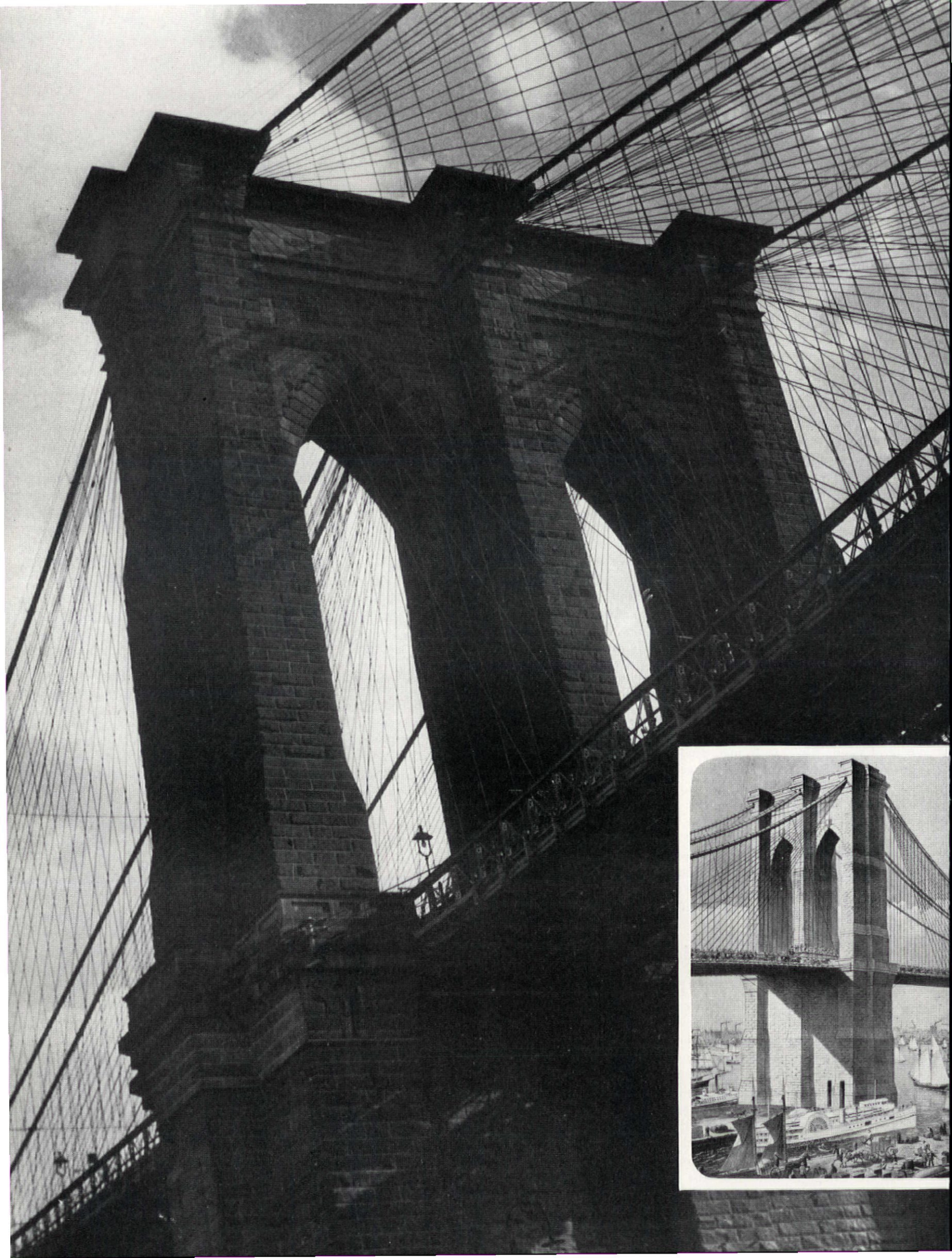
There is certainly nothing accidental in Roebling's accomplishment. His entire career is one of amazingly consistent preparation for his final design.[1] The initial decision to migrate to this country was a reflection of his dissatisfaction with the prospects which Europe offered a young engineer. He and his brother had made a careful study of the States before deciding upon Pennsylvania as a future home. They rejected the South because of their bitter opposition to salvery. It was, John felt, 'the greatest cancerous affliction . . . enough for us not to go into any slave-holding state, even if Nature had created a Paradise there.' Although they had initially bought a 7,000-acre farm at Saxonburg, John Roebling soon (1837) left it for engineering.

His first employment was on the Pennsylvania Canal, on that remarkable section where, by a system of locks and inclined railways, the barges were carried over the crest of the range. In this admirable system, the weakest links were the hawsers which pulled the barge-laden cars up the inclines; although they were woven of best Kentucky hemp, they were continually breaking. Why could these cables not be woven of wire instead of hemp? To answer the question was, with Roebling, a necessity. He set to work designing the machinery for weaving such a rope and in 1841 perfected it. This first cable was literally a steel rope composed of small spirally twisted wires. Roebling was quick to see the potentials of his new material: the availability of steel cable had the immediate effect of liberating the suspension structure from the limitations of hand-forged chains. In 1845 he completed his first suspension structure, an aqueduct for the Pennsylvania Canal. A structure quite without precedent in the New World, the aqueduct consisted of seven spans of wood flume, each 162 ft. long, carried by two continuous cables seven inches in diameter.

But even before he had the opportunity to erect a suspension structure with his twisted rope, Roebling had perfected a second and even more significant cable. Unlike the first, the individual strands were *parallel* (instead of twisted into a spiral). This meant that each individual strand would be identically stressed. Small as it seemed, this change immensely improved the efficiency and predictability of suspension structures. Roebling himself used it in all his larger bridges and it has been a standard procedure ever since.

Roebling could easily have become a manufacturer exclusively, but his interest in design was now thoroughly aroused. Building a new factory in Trenton (1848) did not prevent his building a new highway bridge across the Monongahela at Pittsburgh in 1846 (eight spans of 188 ft. each) or the railroad bridge across Niagara Falls in 1854. Indeed,

[1] The definitive biography of Roebling, as well as the most thorough analysis of his work, is to be found in D. B. Steinman's *Builders of the Bridge* (New York: Harcourt, Brace and Co., 1945).



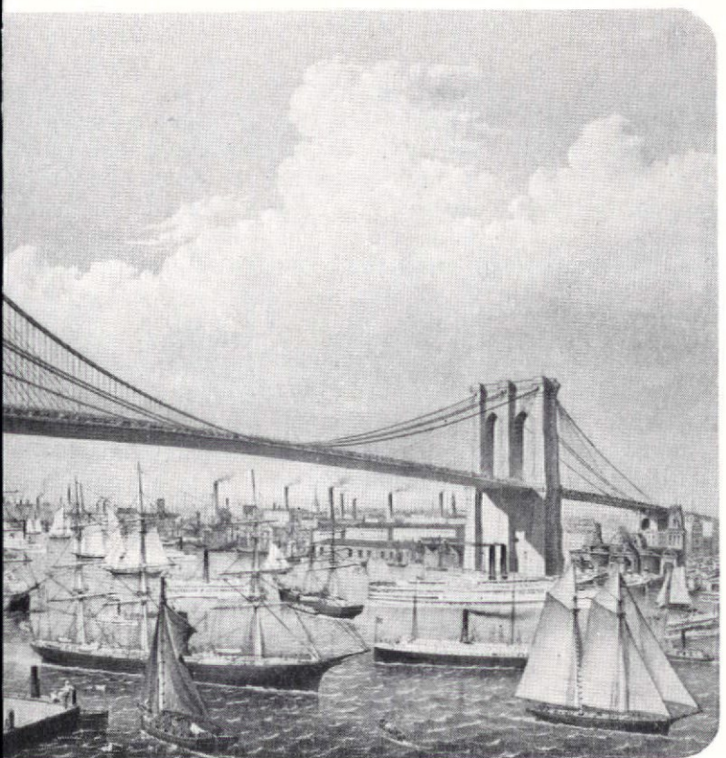
as the size of the structures increased, new problems arose.. To reduce the danger of failure it was necessary to take over the manufacture of the wire from which the cables were woven; this involved improved metallurgy. And for such great structures the cable could no longer be woven in the Trenton plant. In the Pittsburgh Bridge, the cables were woven on the bank. Ultimately, on the Brooklyn Bridge, even this technique would not work. Again the man was equal to the job. He evolved a traveling weaving machine, which shuttled back and forth across the East River, on temporary cables, weaving the main supports as the spider does its web.

All this did not exhaust Roebling's wide interests. In 1847 he advocated a system of railroads and telegraph lines to replace the canals and horse couriers. In 1850, four years before Cyrus Field became actively interested, he wrote that a trans-Atlantic cable was entirely feasible, even giving his specifications and estimate of its cost. Then, in 1857, with two bridges under construction at Cincinnati and Pittsburgh, he wrote to Abram S. Hewitt of New York City proposing a bridge from Manhattan to Brooklyn. The proposal caught the imagination of New Yorkers, but preliminaries were slow and the Civil War intervened. His son Washington went off to war with the Union army and the plant at Trenton was converted to war work. Thus it was not until 1869 that the project went through. Roebling's design was accepted and Roebling appointed chief engineer.

As much a part of American life and landscape as Niagara Falls, the structure needs no description here. The scale and breath-taking clarity of its design are indelibly imprinted upon American memories. But more than this must be said if the full stature of Roebling and his bridge are to be understood. The passionate attachment to the work, which cost him his life in the first year of construction and cost his son his health in the next, was but one aspect of Roebling's mastery of the field. For, in addition to manufacturing the cable, perfecting the machine which wove it, training the workmen and supervising the over-all construction, he conceived the design itself. He thus proved himself the master of the large as well as the small. Posthumously, he displays a complete understanding of tension structures. He established criteria which are still operative; and much of what has been added subsequently reveals itself as either ostentation or ignorance.[1]

1883 ROEBLING'S BRIDGE,

"a tension structure never surpassed and seldom equalled."



rwing Galloway Photo *The Bettmann Archive*

The Tower

PERHAPS the most dramatic leap of the century was that of the Eiffel Tower. Unlike Paxton and Roebling, Gustav Eiffel met the most determined—one might almost say political—opposition. He had to fight not only technological lags (inadequate supplies, untrained workmen, skeptical manufacturers); he had also to overcome hostile editors, irate property-owners, even novelists and poets! From its very inception in 1885 until long after its completion, the Tower was the center of a controversy so spirited as to appear almost incredible in retrospect. The design, appearance, cost, and safety of the structure became public issues. Prominent Frenchmen in all walks of life plunged into the discussion. Alexandre Dumas the younger and Guy de Maupassant were among the intelligentsia who signed a manifesto protesting the erection of the Tower; and the indignant poet Verlaine is said to have sworn never to visit that portion of Paris again. Newspapers took up editorial positions, *Le Figaro* going so far as to publish special issues on the subject. Several owners of property between the site and the Seine instituted suit against Eiffel, insisting that the courts prohibit the construction of so dangerous a structure.

Whatever Eiffel's professional colleagues thought of his project, they very wisely refrained from signing manifestoes on the subject. Only the ornate Charles Garnier, architect of the Paris Opéra, circulated a petition to have it demolished by the government. At any rate, the majority of professionals were at least respectful. Photographs taken during the construction indicate a stream of architects and engineers, top-hatted and frock-coated, being carried aloft on the dinky steam hoists and gravely clambering over the wooden scaffolding.

Gustav Eiffel fought his enemies to a standstill. When the French government, but half convinced of the soundness of his project, voted him only $292,000 of an estimated cost of well over a million dollars, Eiffel unhesitatingly supplied the balance out of his own pocket. He was confident, as he later told the Smithsonian Institution, that public opinion was on his side: 'a crowd of unknown friends were ready to honor this bold enterprise as soon as it took form. The imagination of men was struck by its colossal dimensions.'[2]

Eiffel's estimation of the temper of his age was correct. Once finished, the Tower immediately became, and has remained ever since, the most popular structure in France. In the single Exposition season of 1889 gate receipts at the Tower netted six-sevenths of the cost. It was described at great length in the world press, praised by Thomas Edison, who thanked God for 'so great a structure,' and recognized in the building field for what it was—a pacemaker for rigid structures.

Dramatic as it was the public controversy surrounding the project, Eiffel's mastery of the technological dilemma confronting him was even more impressive. Already the *enfant terrible* of the European engineering fraternity, Eiffel had won an international reputation for his designs for the famous bridge at Garabit in France, the locks for the ill-fated French canal in Panama, and the supporting skeleton for Bartholdi's Statue of Liberty. All this was valuable preparation for the Tower, although in it he confronted problems of much greater magnitude than in these former projects. Indeed, he faced an absence of all those factors

[1] Exhaustive analysis of the ill-fated Tacoma Narrows Bridge, which collapsed shortly after its completion in 1940, has recently revealed that its tendency to 'ripple' under wind pressure was the ultimate cause of collapse. Roebling had clearly anticipated this phenomenon of aerodynamic instability in both his designs and his writings.

[2] G. Eiffel, 'The Eiffel Tower,' *Report of the Smithsonian Institution* (Washington, D.C., 1889), pp. 729-735.

which the modern designer considers essential: a wide choice of specialized building materials, factories which could guarantee their prompt and regular delivery, suitable construction methods, trained workmen.

In evolving his general design, it is apparent that Eiffel drew upon his bridge-building experience, particularly that at Garabit. By 1885 he had come to 'believe that it was possible to construct these [towers] without any great difficulty to a much greater height than hitherto.' The design was naturally based upon metal, since in such material constructions could now 'be planned with such accuracy as to sanction the boldness which results from full knowledge.' This boldness, however, did not blind him to caution: although the spread of the Bessemer process had by this time already made steel generally available, Eiffel conservatively chose wrought iron. He found its properties 'remarkable, since it may be as readily employed in tension as in compression, and can be put together perfectly by riveting.' [1]

Similarly, though the principle of reinforcing concrete with steel was already known, Eiffel stuck to stone masonry for his foundations, which rested in turn on concrete mats. And although he emphasized his faith in these foundations, he evidently realized that they were not ideal and cannily provided slots for eight hundred ton hydraulic jacks in each of the four piers.

Though Eiffel stuck to materials with which he was thoroughly familiar (he could not gamble on new-fangled material like reinforced concrete, about which there was as yet no basic knowledge), he used them in an astonishingly modern manner. Satisfied though he pretended to be with stone masonry, his foundation design nevertheless anticipates contemporary reinforced concrete to a marked degree. Indeed, the four-inch wrought-iron bars which anchor superstructure to foundations also—'by means of iron clamps unite almost all parts of the masonry'—act as a rudimentary reinforcing. In much the same manner his detailing of the various wrought-iron members anticipates, in both profile and general shape, contemporary design of steel members.

IN the actual erection of the Tower, Eiffel was far ahead of the current European practice. For example, he made a clear distinction between shop and field operations, and had the entire seven thousand tons of ironwork completely fabricated at the factory, including the punching of all holes and much of the riveting. This enabled him to use a relatively small crew (two hundred and fifty) of unskilled men at the site.

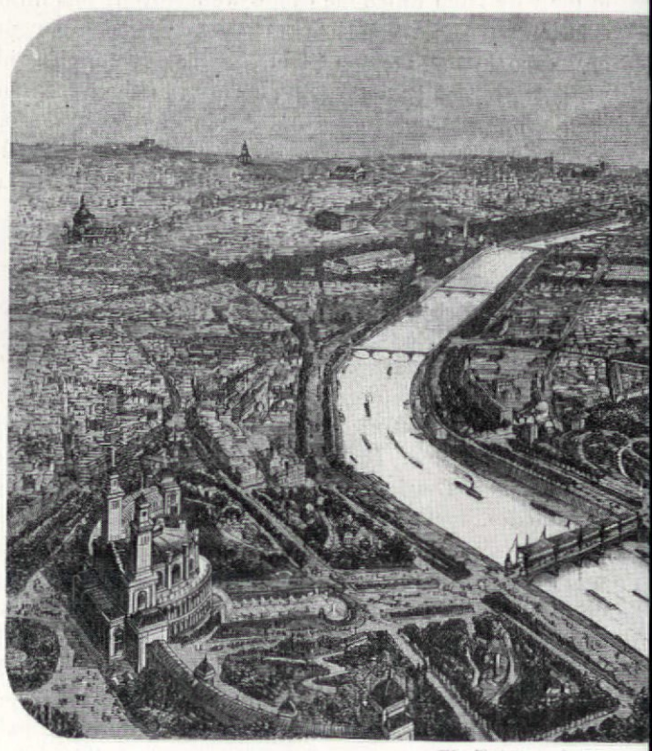
He designed his own scaffolding, making elaborate (and until then unheard-of) provisions for the workmen's safety. This led one American magazine wonderingly to report to its audience: 'It was feared that, unaccustomed to a very high scaffolding, few men could be found not subject to vertigo. But in [the construction of] the Tower they did not work high in the air with an open and dangerous footing. They were on platforms 41 feet wide and as calm as on the ground.'[2] Eiffel was forced to design his own winches and rigging; and it is here that the technological lags against which he fought are most clearly apparent. By careful organization of each step in fabrication and erection processes, he was able to maintain control over the design, quality, and delivery-timing of his ironwork. But the industrial resources of his time simply did not permit a scaffolding and rigging system of similar efficiency. There was a time lag, between the design level of the Tower itself and that of its scaffolding and rigging, of at least half a century. This might have deterred other men: not so Gusav Eiffel. He forced the Tower through to completion without a single mishap, and thereby set the world new standards in the design and erection of very tall structures.

Not one of these three great designers was an architect, and only one of their three great structures can be properly classified as a building. Yet the popular acclaim which their works received shows how far removed from reality were the architects, the architecture, and the architectural critics of their day. There is little evidence that any of the three ever felt called upon to defend the appearance of their structures, much less to formulate any formal statement on personal esthetic standards. Their ignorance of contemporary architectural theory seems to have been absolute, incredibly pure. Yet it was a naïveté for which we can well be grateful. Their designs themselves carry the internal evidence of high discipline and precise selectivity — standards compared to which the turgid, flowery prose of professional critics like John Ruskin or James Jackson Jarvis appear tragically inadequate and ill-informed.

The successive impacts of these three structures upon American thought are readily traced in the periodicals of the day. Each as it appeared was added to the required itinerary of traveling Americans. The Bridge especially caught popular fancy: it was sold to yokels, woven into the music-hall routine, incorporated into our folklore. Of all sections of the population, the architects themselves seemed to have been least affected. The Crystal Palace was gracelessly mimicked in New York in 1853 and again at the Philadelphia Centennial in 1876. Roebling's bridge was quickly caricatured in the Queensborough and Manhattan spans which rose to flank it; and fragments reminiscent of Eiffel's ironwork were to be found embedded in later steel structures. Yet these were but distorted reflections of the original in which the clarity of the central concept was quite overlooked. It was as though no impulse, however strong or healthy, could remain long dominant in the ferment of post-Civil War America.

Each of the three structures was, in a way, the product of a golden moment of equilibrium, brief in time, special in character, delicate in balance. Their significance was dissipated before men of adequate stature could again appear to grasp it; and when men like H. H. Richardson and Louis Sullivan did appear, they came from a quite different background, equipped with a radically different perspective, so that they profited only indirectly from the explorations of the century's greatest structuralists.

1889 EIFFEL'S TOWER, "a pacemaker for rigid structur

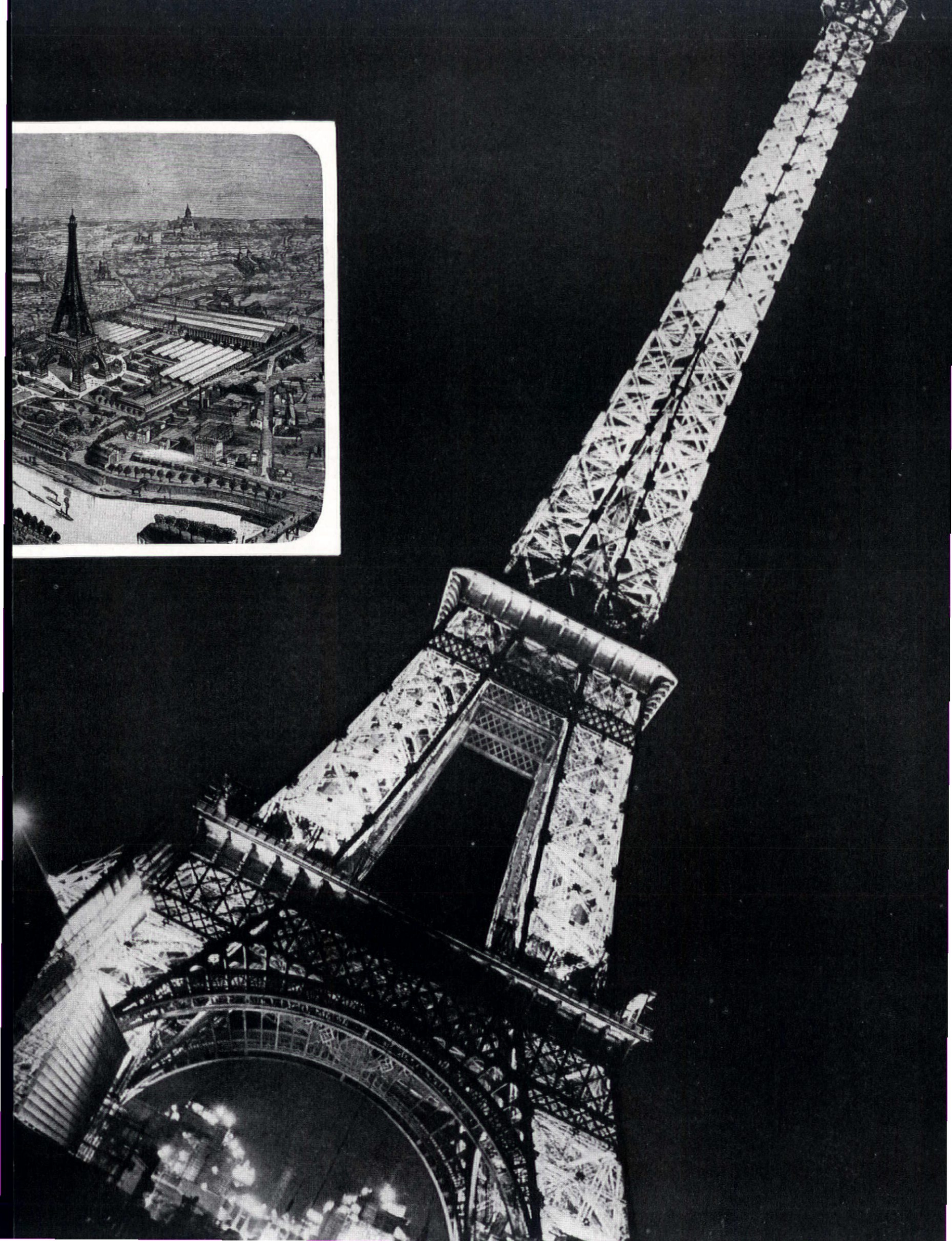


The Bettmann Archive

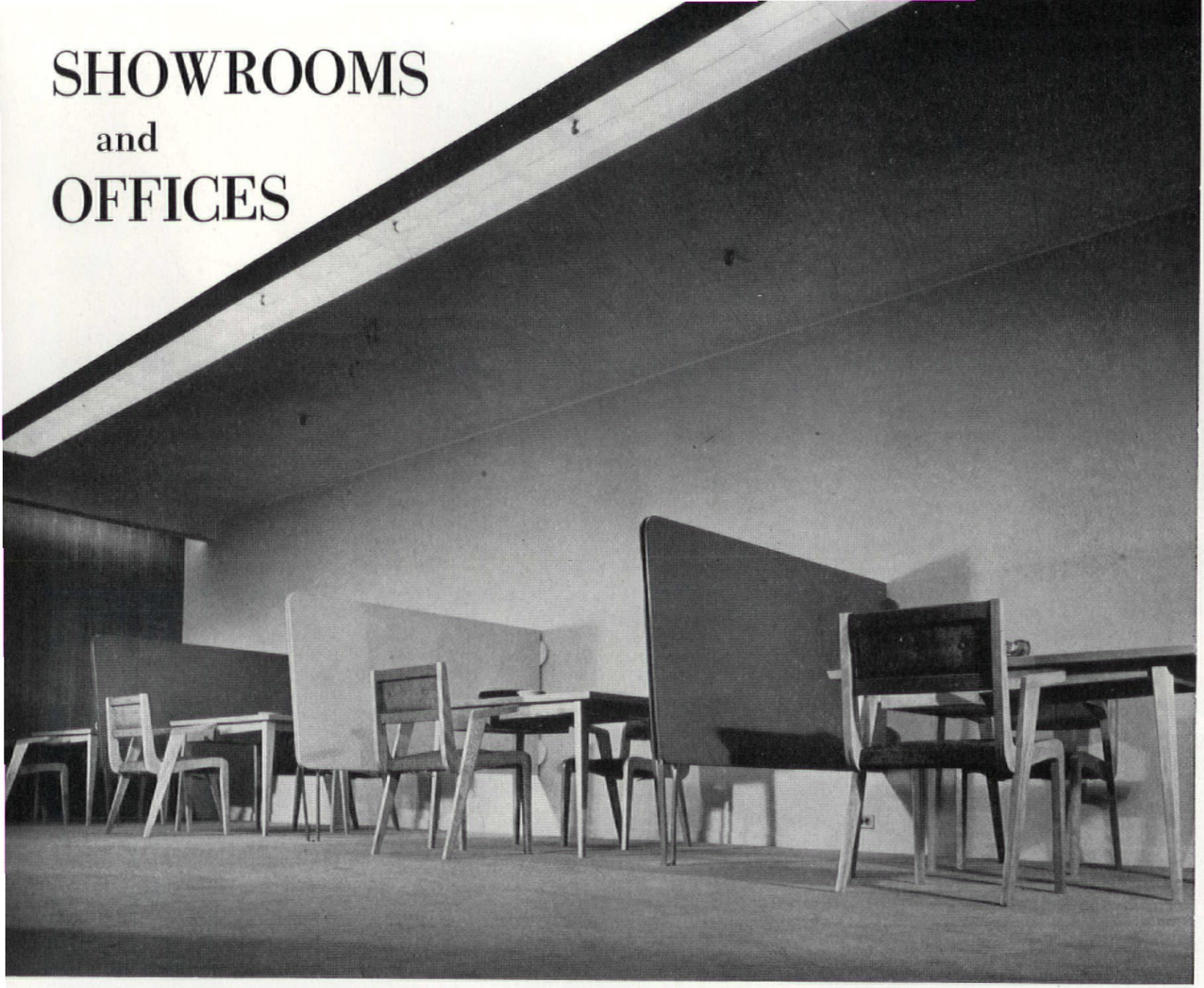
Black Star Photo

[1] This was not, of course, Eiffel's private discovery. In 1885, William LeBaron Jenney had already completed Chicago's first skyscraper, during which he would have met similar theoretical and practical problems. But the variation between American and French technology makes it unlikely that there was any direct exchange between Paris and Chicago.

[2] William A. Eddy, 'The Eiffel Tower,' *Atlantic Monthly Magazine*, vol. LXIII (June, 1889), pp. 721-727.



SHOWROOMS and OFFICES



SALESMEN'S BOOTHS IN SHOWROOM ARE SEPARATED BY BRIGHT COLORED SCREENS, LIGHTED BY RECESSED STRIP OF FLUORESCENT FIXTURES

SHOWROOM for children's dresses employs open planning and bright colors to make the most of a tight budget.

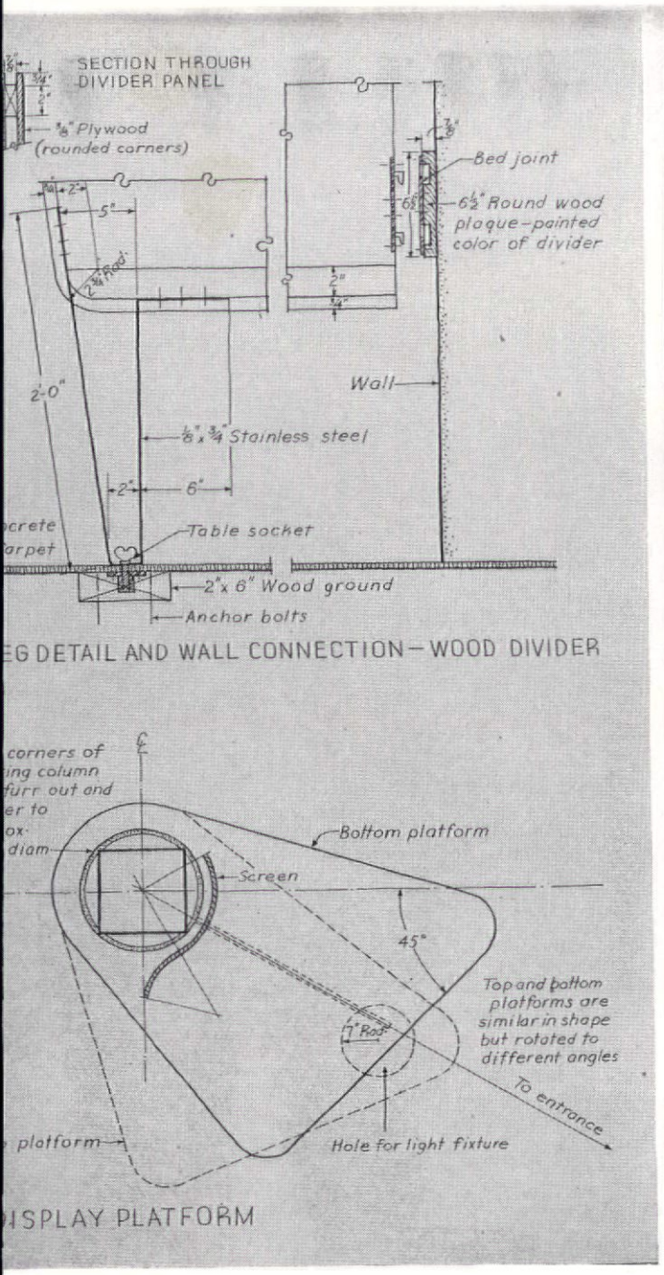
JACK BORGENICHT, INC., Owner WILLIAM LESCAZE, Architect JAMES MITCHELL & SON, General Contractor



Ben Schnall Photos

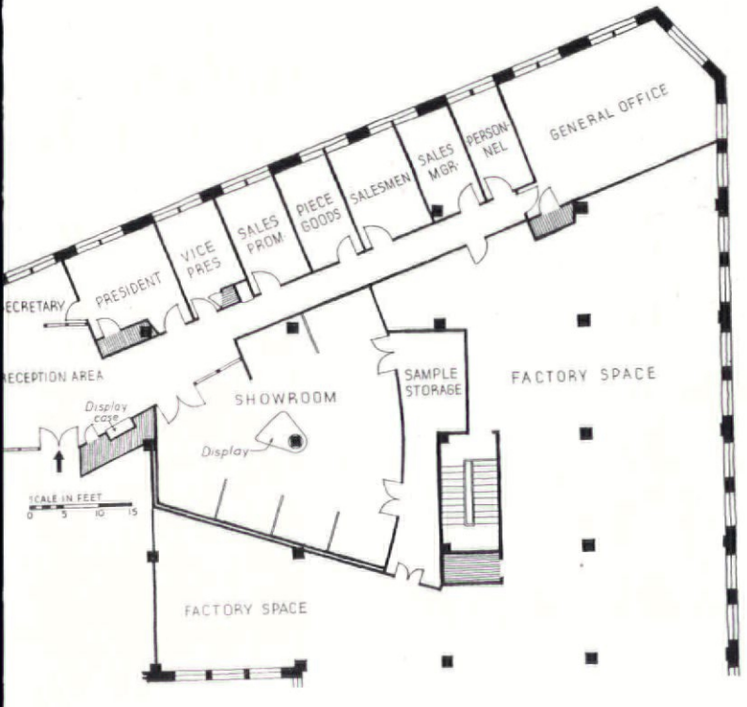
Working within the confines of a small budget and an upper floor of an odd-shaped New York City building, the architect has created a dignified yet cheery atmosphere for the wholesaling of children's dresses. This was accomplished primarily through the economical use of fluted glass partitions and painted plywood screens, which subdivide the reception and display areas, and spots of brightly colored paint, which accent the gray walls and acoustical ceilings.

To discourage office personnel from using the display room as a lounge, each department was given a small but comfortable office along the exterior of the wedge-shaped building. Further to dignify the showroom, all display racks are stored in an adjacent room and are brought into it only as required. The only permanent display fixture is an abstract form built around a structural column in the center of the room. Used to spotlight the dress-of-the-season, this fixture is visible from the six sales booths which surround it. Resembling the colors of children's play blocks, the bright paints on the sales booth screens bring out the colors of the merchandise.





ISLAND DISPLAY IN SHOWROOM IS BUILT AROUND CENTRAL STRUCTURAL COLUMN



OWNER'S COMMENT attests the flexibility, efficiency and air-conditioned comfort of the display space: "We find more and more ways of displaying our merchandise to advantage. When a buyer walks in, she forgets whether it is hot or cold, musty or dusty on the outside. The gay colors of the saless booth dividers, plus the brilliance of the recessed lighting and the calm of the indirect lighting, help the salesmen encourage the buyer to buy."

FINISHES AND EQUIPMENT

SOUND INSULATION—Muffletone on ceilings, Celotex Corp. FLOOR COVERINGS: Showroom — Broadloom carpet; Kencork elsewhere, David E. Kennedy, Inc. WALL COVERINGS: Reception and showrooms—Flexwood, U. S. Plywood Corp. FURNISHINGS—Knoll Associates, Inc., and Macey-Fowler, Inc. DOORS—flush birch or glass and painted wood. ELECTRICAL FIXTURES—The Garcy City Plating Co. and General Lighting Co. AIR CONDITIONING—filtering and cooling, York Corp. VENETIAN BLINDS—Standard Venetian Blind Co.

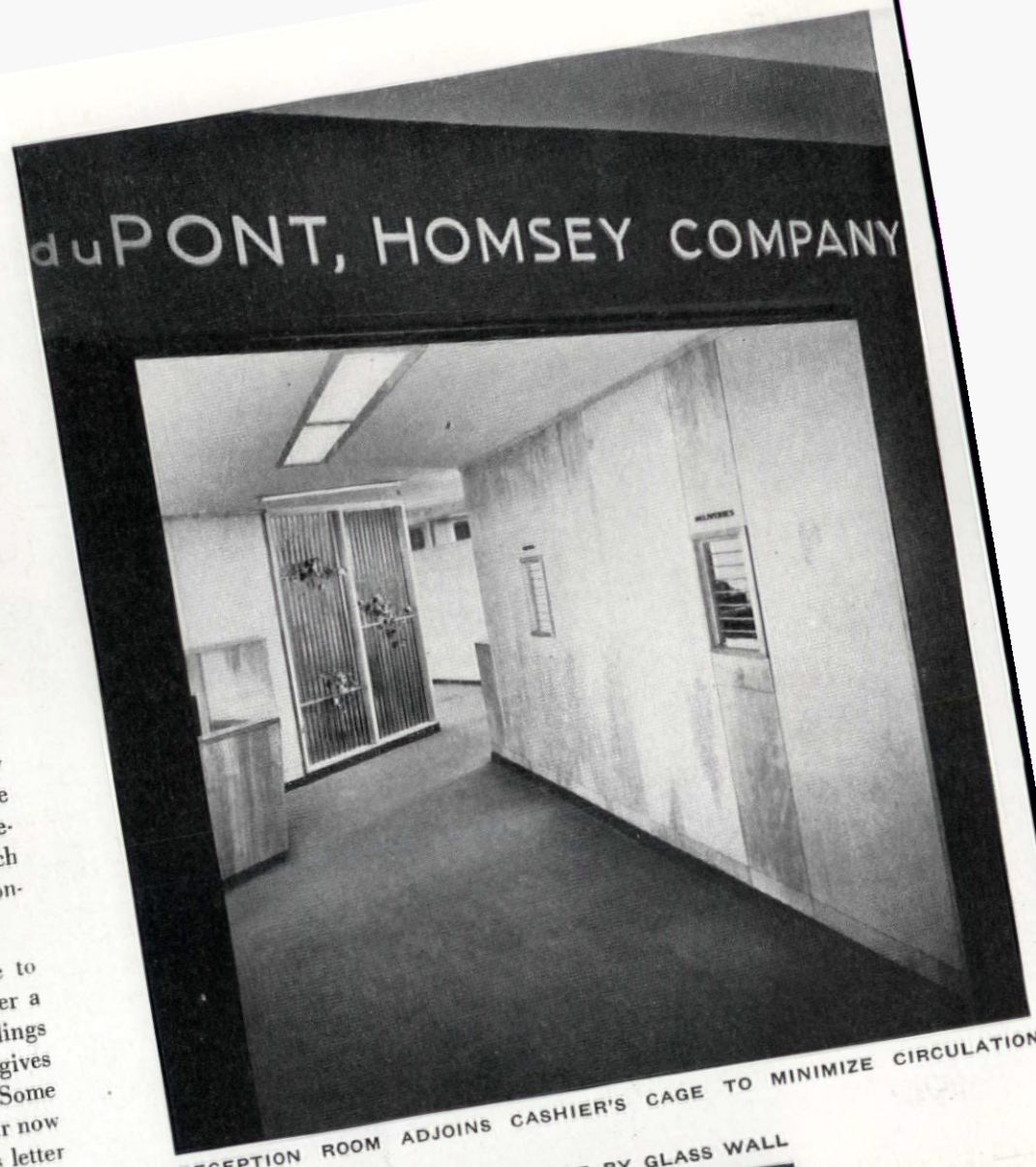
BROKERAGE OFFICE boosts business and employe morale with space-saving modern design.

duPONT, HOMSEY COMPANY, Owners
VICTORINE & SAMUEL HOMSEY, Architects
HENRY E. WILE, General Contractor

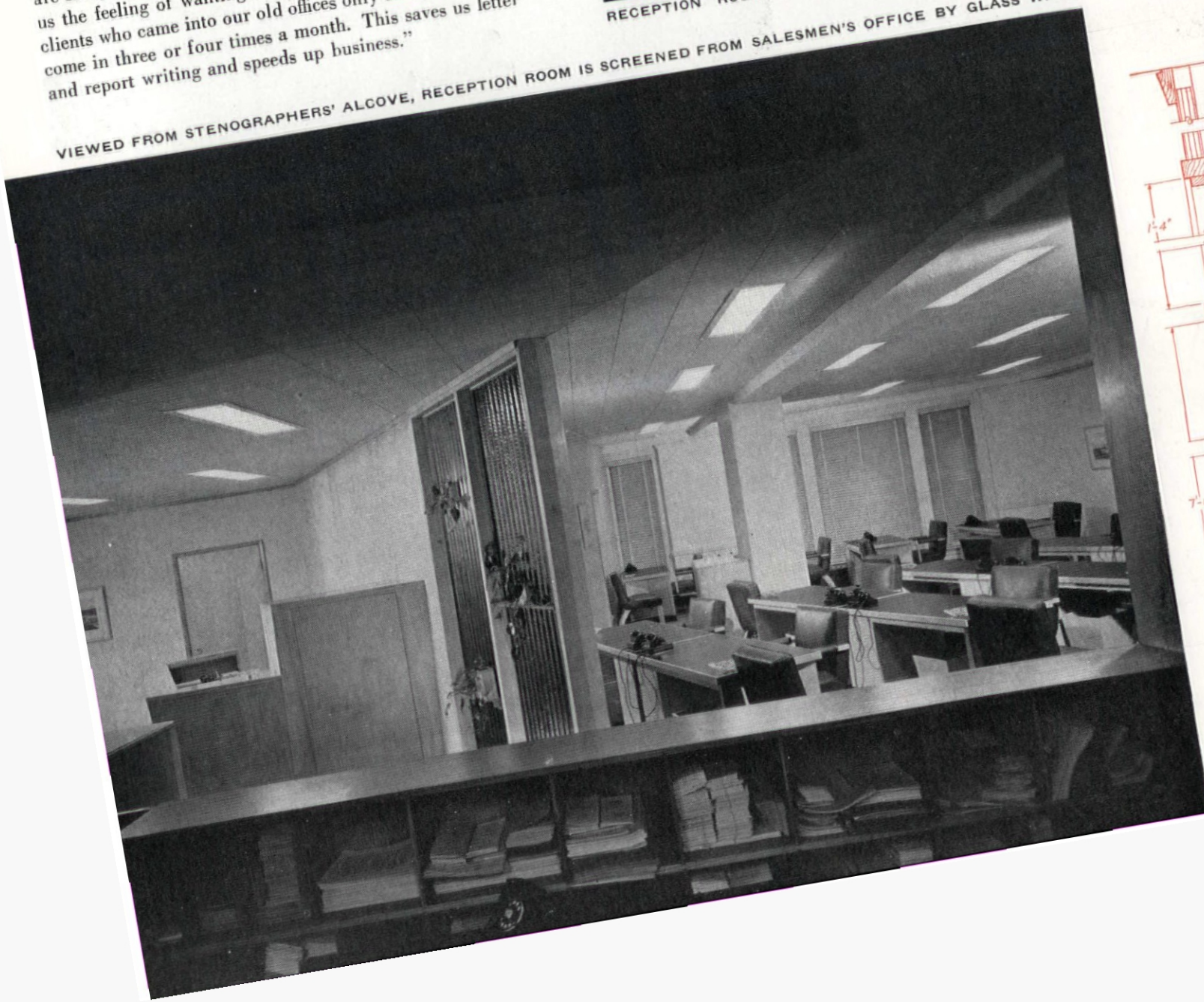
With the aid of such space-saving devices as folding walls, storage partitions and tailor-made furniture, the architects of this Boston brokerage office have accommodated the company's nine departments and 38 employes in a scant 5,000 sq. ft. However, the skillful division of space and room arrangement produces an effect of spaciousness.

Salesmen are compactly grouped at small desks, but have access to two private conference rooms which may be further subdivided by folding partitions. A busy, noisy place, the trading room is separated from the sales area by a sound deadening storage partition. Salesmen may enter this room through their stenographers' pool, but the need for such traffic is reduced by the abundance of telephone equipment and a public address system via which traders keep salesmen informed. Service facilities are concentrated around the entry to minimize circulation.

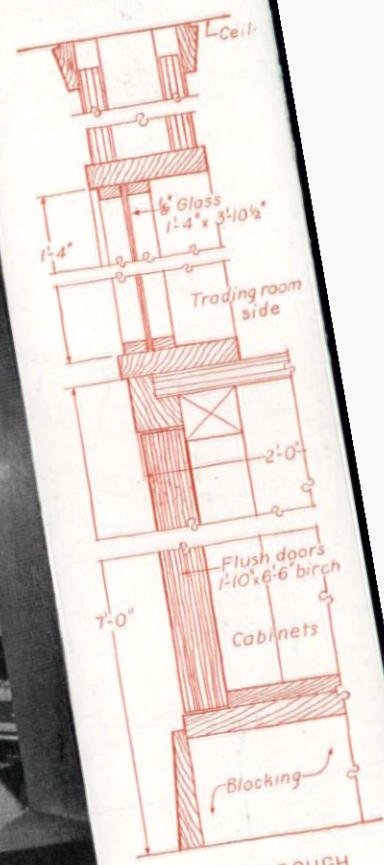
OWNER'S COMMENT: "It is livable, and we hate to leave it. We don't get the same tired-out feeling after a tough day, as we did in the old offices. The surroundings are so uplifting that a drop in the market no longer gives us the feeling of wanting to run away from it all. Some clients who came into our old offices only once a year now come in three or four times a month. This saves us letter and report writing and speeds up business."



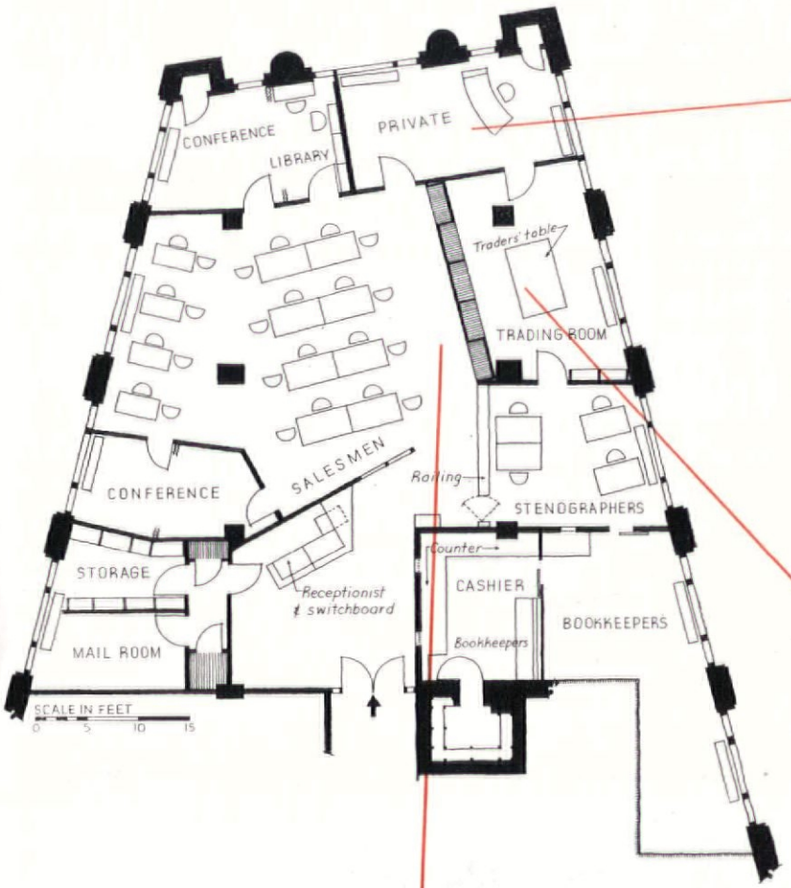
RECEPTION ROOM ADJOINS CASHIER'S CAGE TO MINIMIZE CIRCULATION

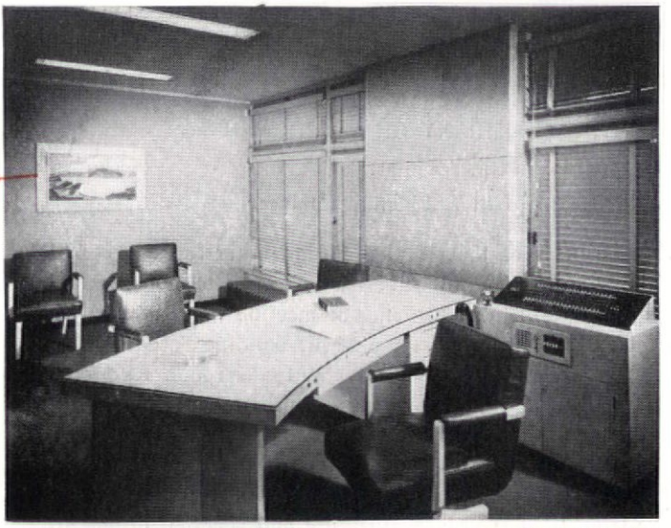


VIEWED FROM STENOGRAPHERS' ALCOVE, RECEPTION ROOM IS SCREENED FROM SALESMEN'S OFFICE BY GLASS WALL



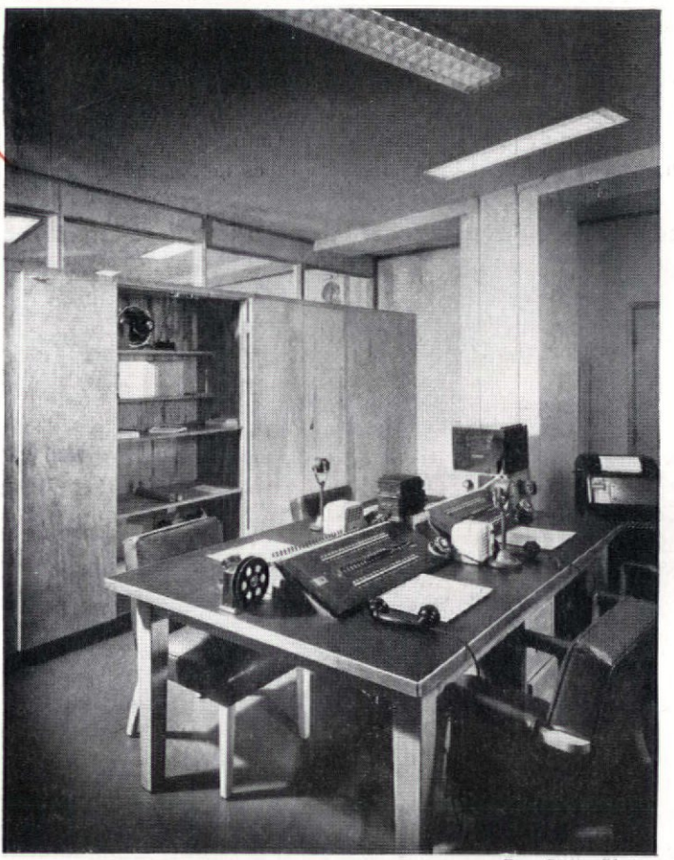
SECTION THROUGH STORAGE WALL





PRIVATE OFFICE CONTAINS CURVED DESK AND SWITCHBOARD

TRADING ROOM SIDE OF STORAGE PARTITION HOLDS PAPERS



Ezra Stoller Photos

SALES ROOM STORAGE PARTITION IS COAT CLOSET AND SOUND BUFFER



FINISHES AND EQUIPMENT

STRUCTURE: Interior partitions — studs covered with Sheetrock, U. S. Gypsum Co. SOUND INSULATION—Balsam Wool, Wood Conversion Co. Ceilings—acoustic tile, Celotex Corp. FLOOR COVERINGS—carpet, Bigelow Sanford Carpet Co. WALL COVERINGS—birch or maple plywood, U. S. Plywood Corp. FURNITURE—Victorine & Samuel Homsey. DOORS—flush, Roddis Lumber & Veneer Co. HARDWARE—W. C. Vaughan Co. PAINTS—E. I. du Pont de Nemours Corp. ELECTRICAL INSTALLATION: Wiring and switches, Arrow-Hart & Hegeman Mfg. Co. Fixtures—fluorescent, R. & W. Wiley, Inc. Convertor—Continental Electric Co.

OFFICES for aluminum company, clustered around a multi-purpose room, demonstrate its product and a three-source lighting system.

ALUMINUM COMPANY OF AMERICA, Owners

GEORGE A. DAUB, Architect

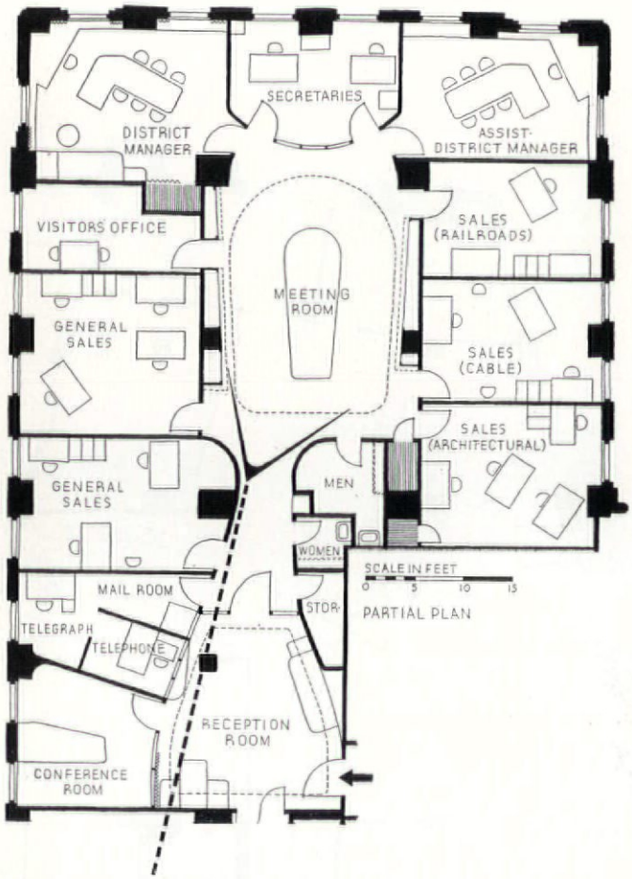
A. ERNEST DANBLY, Lighting Engineer

Three aspects of the restyled Philadelphia sales offices of Aluminum Company of America warrant attention:

1—Design of the conference or meeting room (actually a communicating hall between nine surrounding offices) is such that it may also serve as a display and sales room. Its curved shape and wall-hung showcases cleverly conceal bulky columns, suggest its function as the sales department hub.

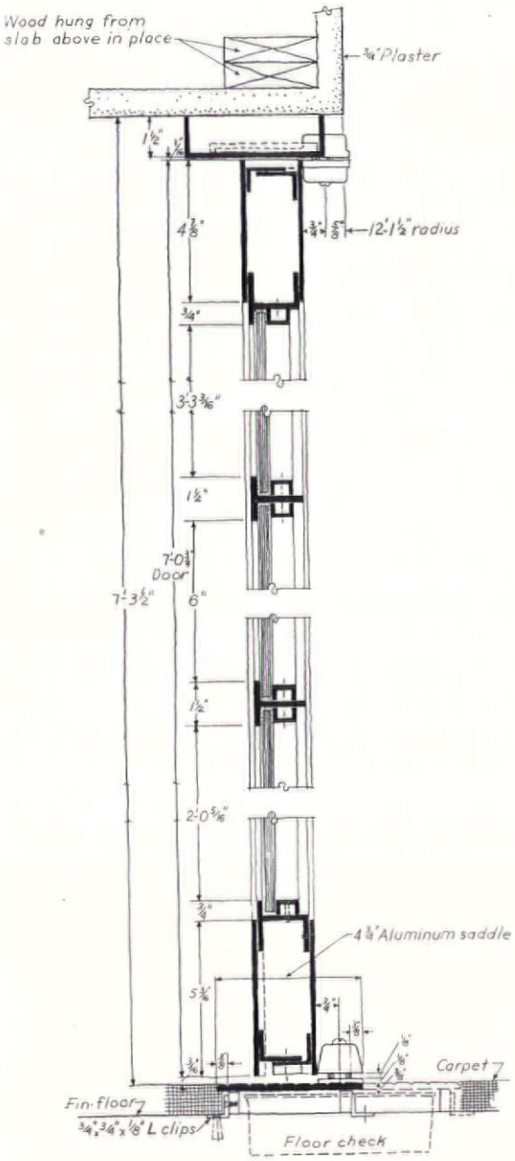
2—Aluminum is employed generously for decorative, functional and display purposes—glass partition and showcase trim, light reflectors, furniture and venetian blinds all display the material's versatility.

3—Lighting of the project is a combination of three types. For instance, the general illumination of the 18 x 31 ft. conference room is provided by 336 ft. of 25 mm. cold cathode tubes built into a cove around the 9 ft. high ceiling. A series circuit with three transformers, it is designed for 20 ft. candles and about 5.2 watts per sq. ft. Supplementary light is produced by pin point spots over the table, an incandescent fixture over each door, fluorescent tubes in the showcases.

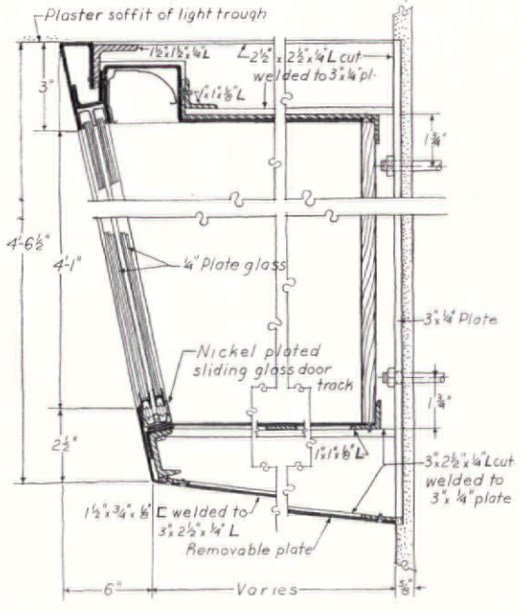


CONFERENCE-DISPLAY ROOM BORROWS NATURAL LIGHT FROM SECRETARIAL OFFICE TO SUPPLEMENT INDIRECT COLD CATHODE SYSTEM



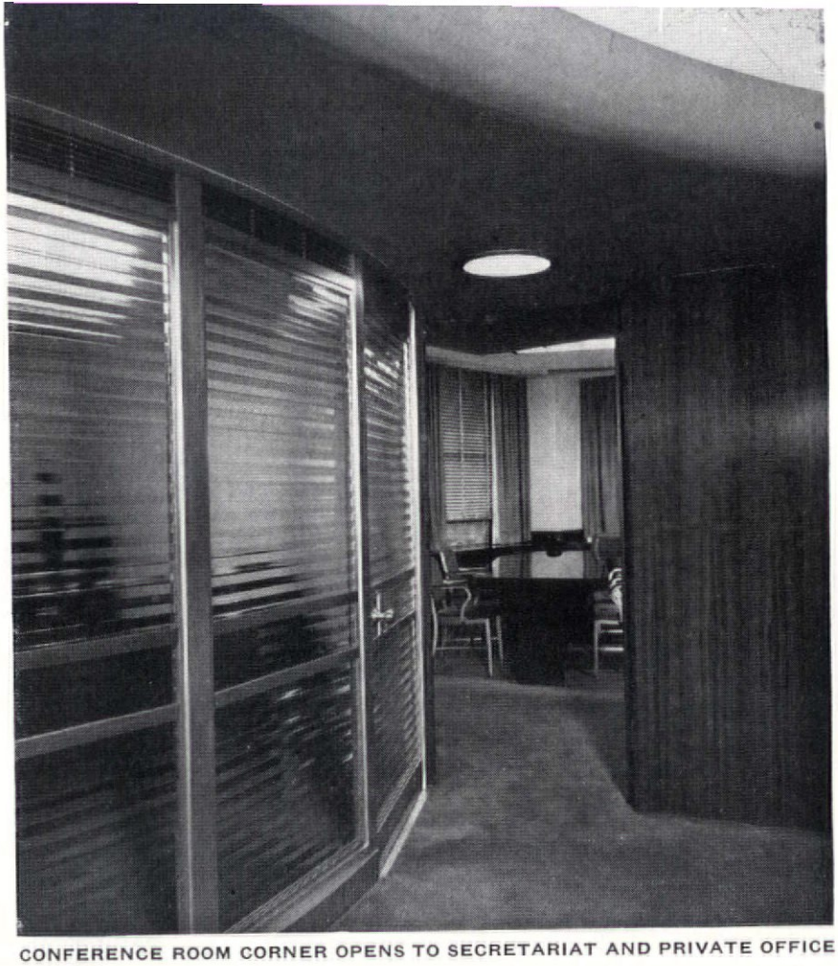


SECTION THROUGH DOOR—CURVED PARTITION

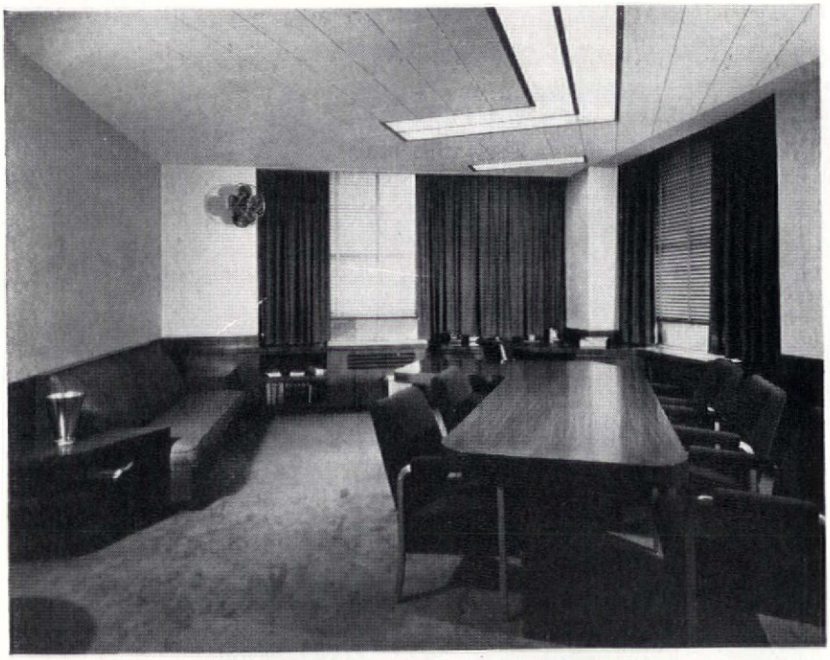


SECTION THROUGH DISPLAY CASE

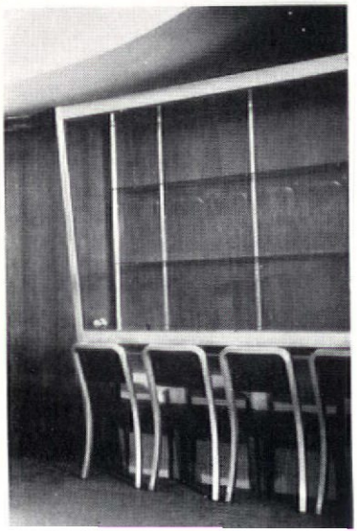
Cortlandt D. Hubbard Photos



CONFERENCE ROOM CORNER OPENS TO SECRETARIAT AND PRIVATE OFFICE



OFFICE DESK AND TABLE ARE LIGHTED BY CONFORMING CEILING PANELS



FINISHES AND EQUIPMENT

PARTITIONING MATERIALS—Johns Manville Corp. Interior paneling—mahogany and walnut. Ceilings—Acoustone, U. S. Gypsum Co. GLASS — Louvrex, Libbey-Owens-Ford Glass Co., Bandlite, Mississippi Glass Co. FLOOR COVERINGS: Offices — Kencork, David E. Kennedy, Inc. Executive offices and other rooms — custom woven carpet, Archibald Holmes. HARDWARE—aluminum, Schlage Lock Co. ELECTRICAL FIXTURES—cold cathode, Cutler Light Mfg. Co. Fluorescent, Graybar Electric Co. Switches and fittings—Harvey Hubbell, Inc. VENETIAN BLINDS—aluminum, Aluminum Venetian Blind Co.

DISPLAY ROOM furnishes effective backdrop for exhibition of the lowly paper box.

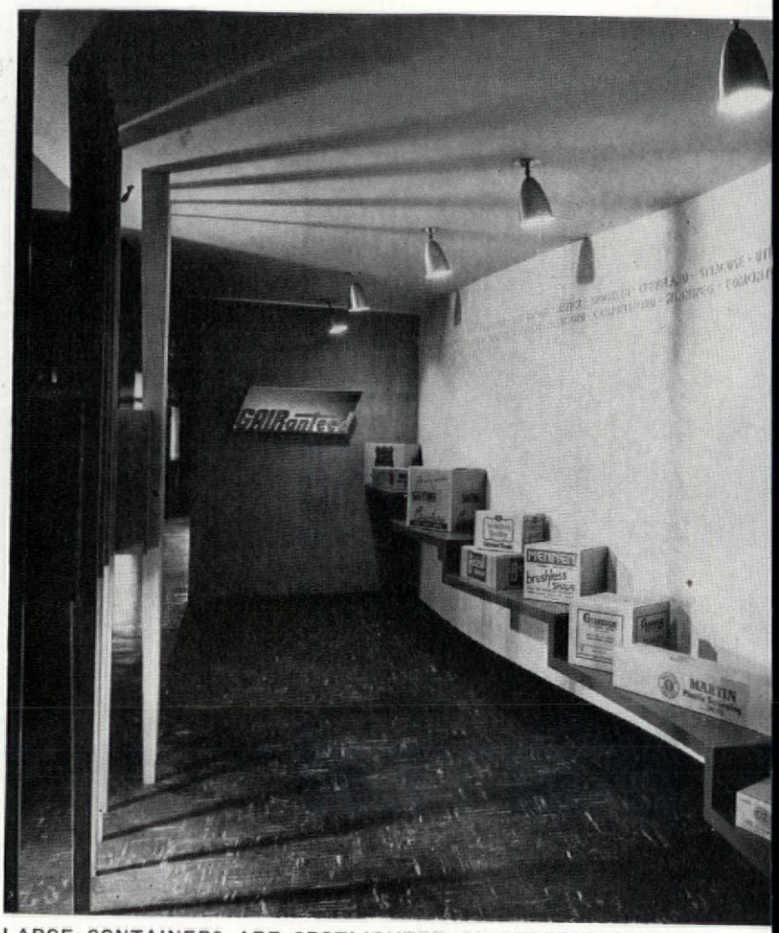
ROBERT GAIR COMPANY, Owner

EDWIN J. ROBIN & MAXFIELD F. VOGEL, Architects

FRANK WILL BUILDING CO., General Contractor

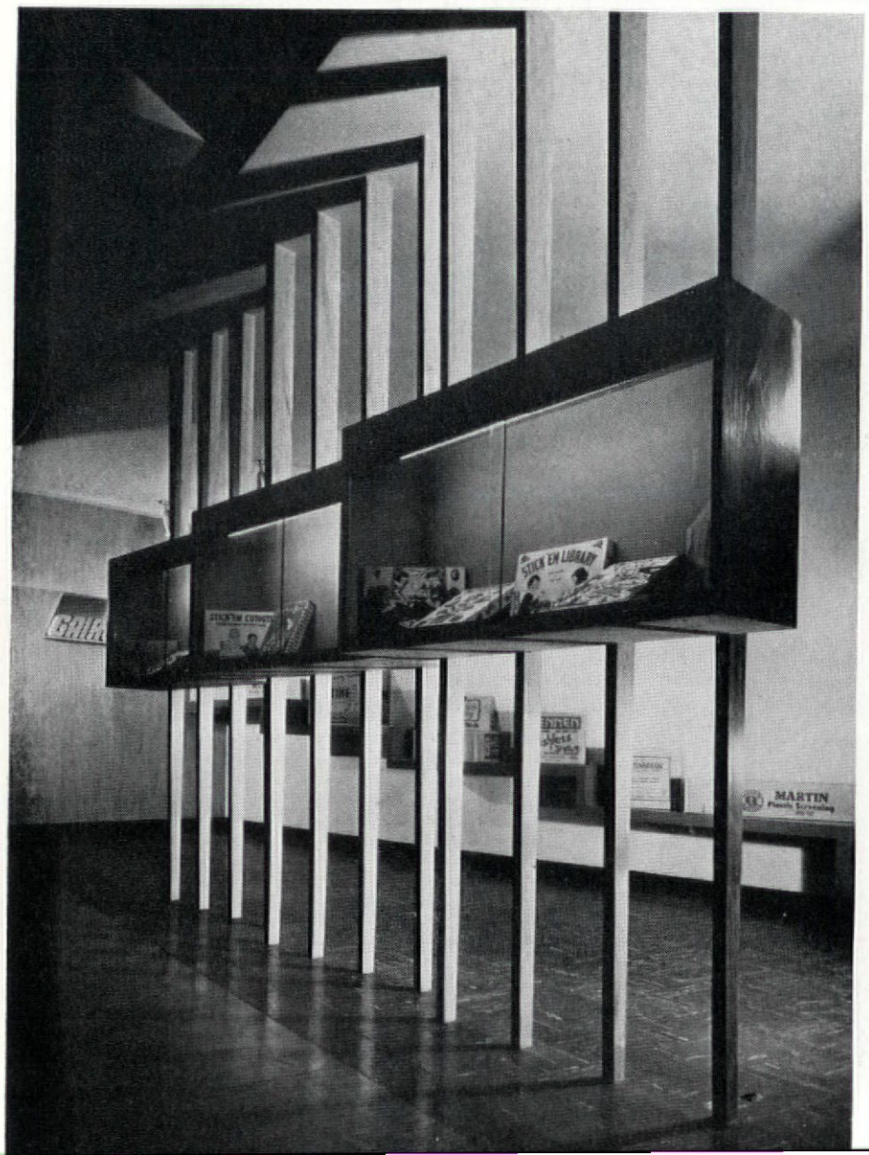
The problem given the architects was to revamp outmoded show space in an old New York City building into a display area for paper containers. Fortunately the space was located at the intersection of two public corridors, serving the company's offices, and could therefore be opened on two sides to the view of passersby. One side is completely open; the other is defined only by open studwork which supports eye-level show cases and yet gives the observer a glimpse of the other displays beyond. A wedge-shaped store room divides the space into two display rooms, skewes the display walls so that they are more readily viewed from outside.

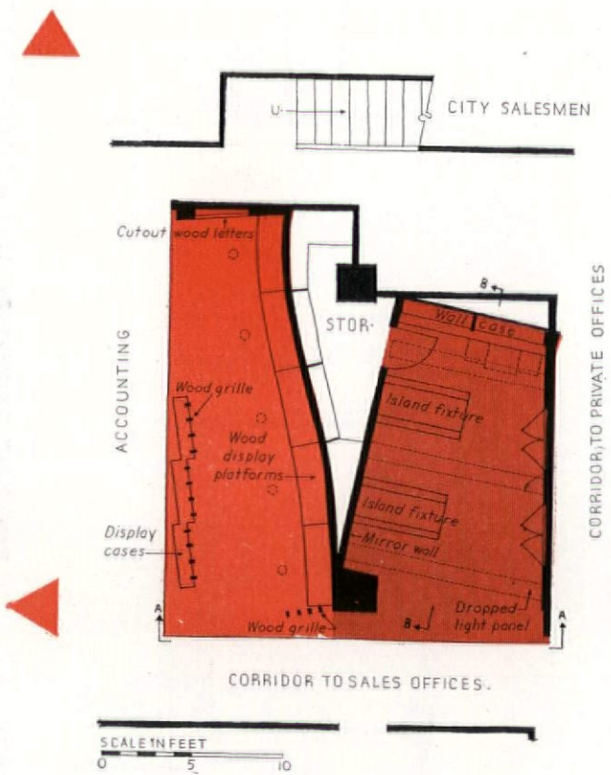
The corner display room makes an informal exhibition of large and small boxes, and the other room is designed to resemble a super market for the display of food packages in their natural environment. The latter room has a mirrored wall to double its apparent size and disappearing tables and chairs for the use of salesmen. In this area a dark color is used in conjunction with suspended fluorescent light troughs to disguise the existing beam construction of the ceiling. Otherwise, colors are used cautiously so as not to compete with the colorful boxes which are relied upon for decorative effect.



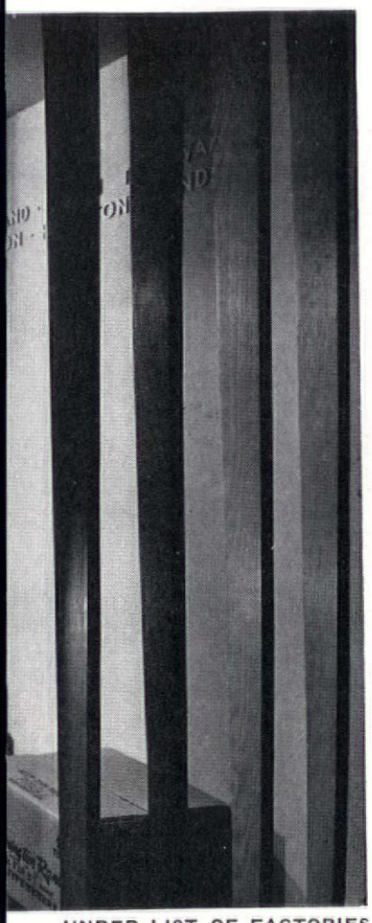
LARGE CONTAINERS ARE SPOTLIGHTED ON STEPPED DISPLAY

EYE-LEVEL DISPLAY CASES ARE MOUNTED ON WOOD FINS, LIT INDIVIDUALLY





Ben Schnall Photos



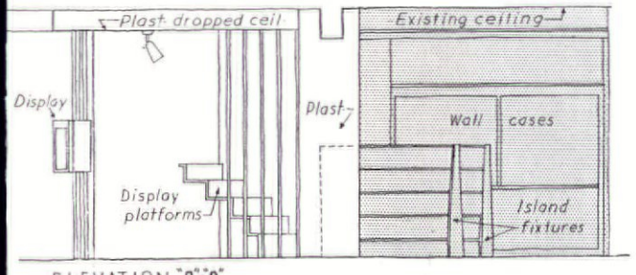
UNDER LIST OF FACTORIES



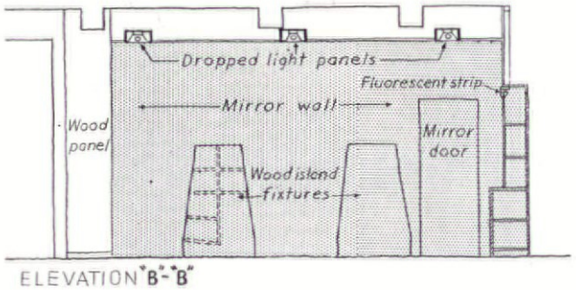
FOOD PACKAGE DISPLAY SIMULATES STORE



SALESMAN'S CHAIR AND TABLE PULL OUT OF CABINET



ELEVATION "A"-"A"



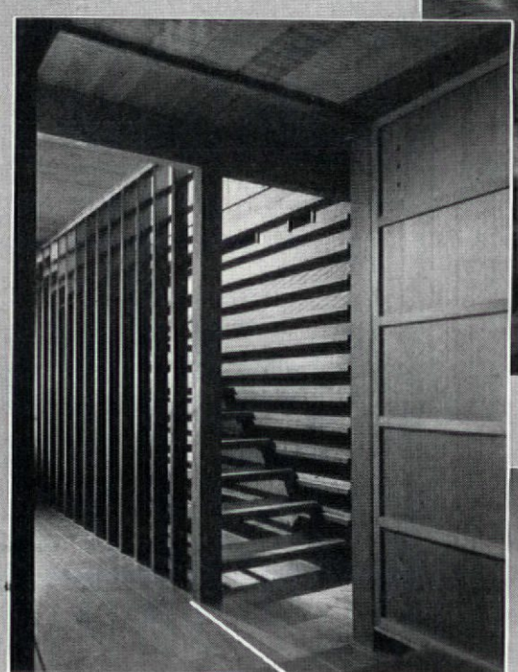
ELEVATION "B"-"B"

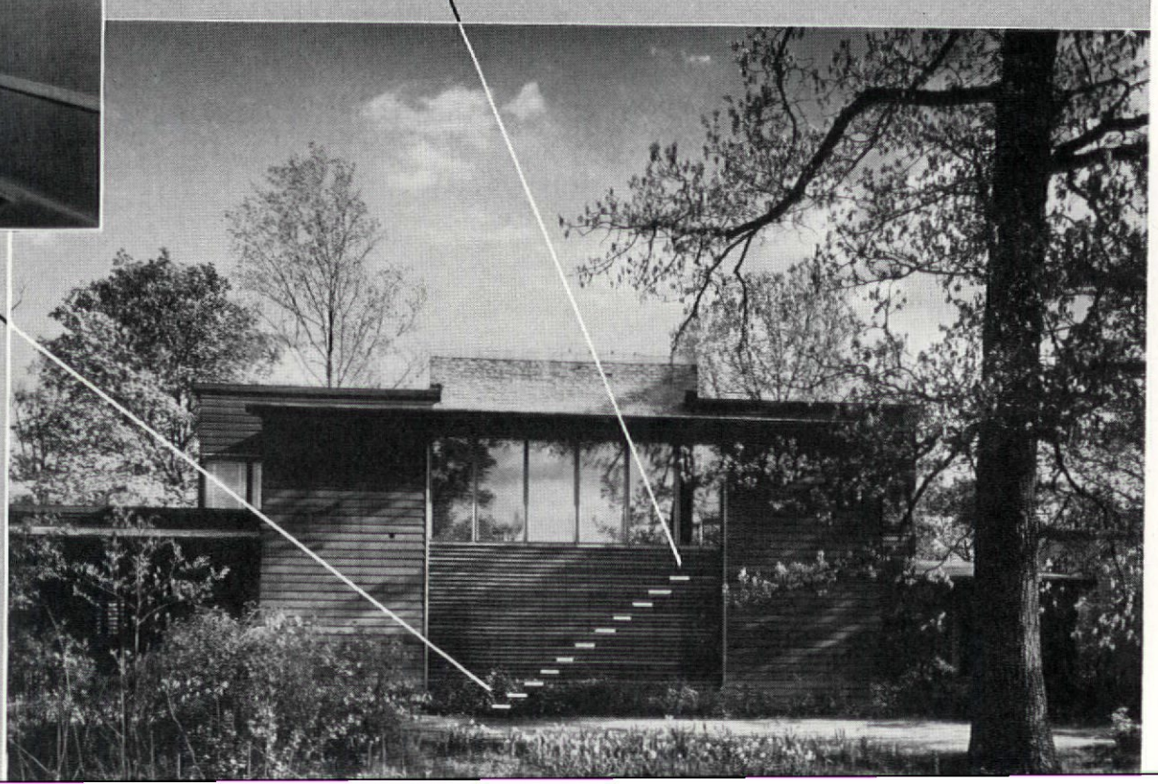
FINISHES AND EQUIPMENT

FLOOR COVERINGS — asphalt tile and linoleum, Armstrong Cork Co. WALL COVERINGS—oak plywood, Roddis Lumber & Veneer Co., plaster, U. S. Gypsum Co. and mirrors, Unionport Glass Co. FURNISHINGS—material, Roddis Lumber Co., made by Grand Central Woodwork Corp. WOODWORK AND DOORS —Roddis Lumber & Veneer Co. Lettering—N. Y. Lettering Co. PAINTS—J. Skaller. ELECTRICAL INSTALLATION: Wiring system—Columbia Cable & Electric Co. Switches and receptacles — Pass & Seymour, Inc. Fixtures — General Lighting Co. and Ender Mfg. Co. Switch and outlet boxes—Reco Mfg. Co.

HOUSES

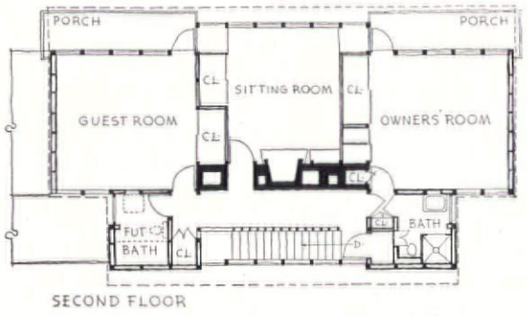






DECORATIVE HORIZONTAL AND VERTICAL MEMBERS ARE USED TO SUPPORT TREADS AND STIFFEN UPPER RAILING

Country house in the Midwest is a frank combination of simple materials, expertly detailed

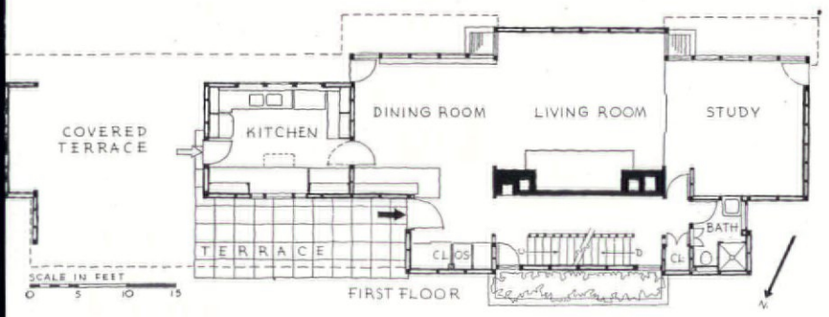


SECOND FLOOR

HOUSE IN DOWNERS GROVE, ILL.
PHILIP S. RINALDO, JR., Owner
SCHWEIKHER & ELTING, Architects
EDWARD HAWKINS, General Contractor



STYLIZED SOUTH ELEVATION IS STUDY IN HORIZONTAL LINES. UNPAINTED WOOD BLENDS PLEASANTLY WITH NATURAL SURROUNDINGS





Located 25 mi. west of Chicago, this house serves as year round residence for a family with three small children. The site is a sloping one, part of a heavily wooded subdivision of Downers Grove. The house sits well back from the road in a natural clearing which was left undisturbed since the abundance of wild flowers in the region made formal landscaping unnecessary.

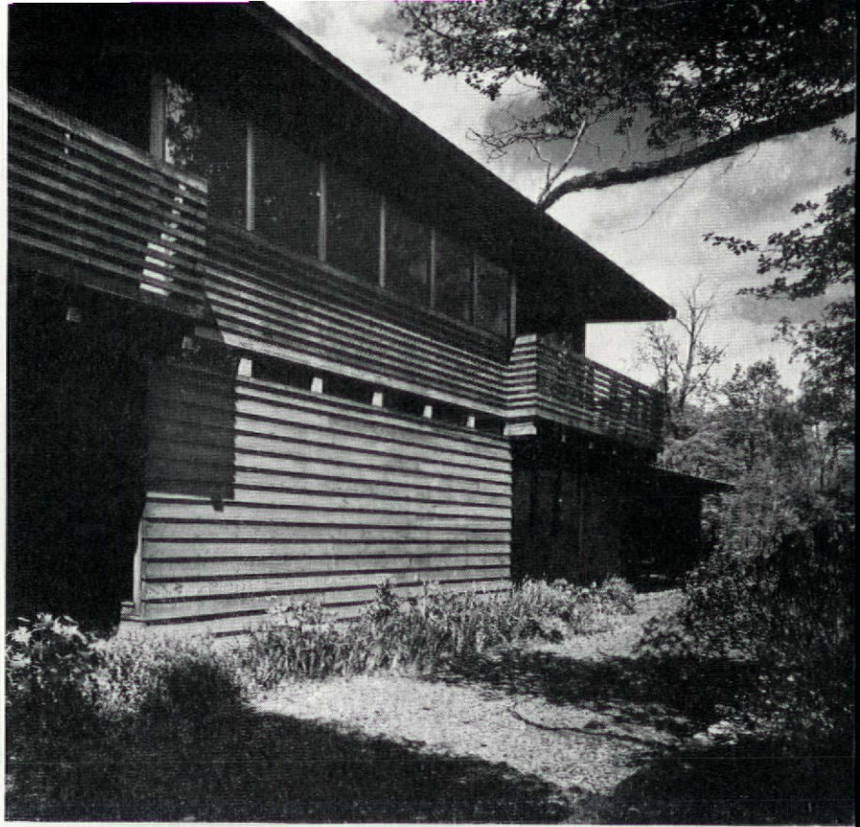
The location of the living room on the south side of the house away from the road had only one drawback—it would face uphill. To adjust the house to the slope and to make the property accessible from the living room, a narrow terrace was cut into the grade, confined by a low stone retaining wall. It is covered with tanbark. Because of the woods, all views are restricted to the property. The game room and service area, living-dining area and sleeping quarters have been arranged in three conventional tiers. However, the openness of the plan and the detailing of its various parts are thoroughly up to date. The dining area has been treated as a part of the entrance and living room. A light-weight sliding screen permits the library to be thrown into this central space, partially or entirely separated from it. The concentration of masonry in the central chimney stack is

explained by the fact that it contains the flues of three fireplaces as well as that of the boiler. The natural brick, however, contributes an interesting variety of texture in the hall and living room. An upstairs sitting room, temporarily serving as nursery, will resume its original function as soon as a one-story wing can be added for the children.

In this particular region, summers are hot and winters extremely cold. However, the large glass areas have been found entirely practical. These are shaded by wide overhangs from the high-angle summer sun.

Except for the common brick chimney, the exterior is covered with 6 in. beveled redwood siding, and, wherever possible inside and out, the structure has been left exposed. The overall effect of honesty and solidity typifies the work of this particular firm of architects.

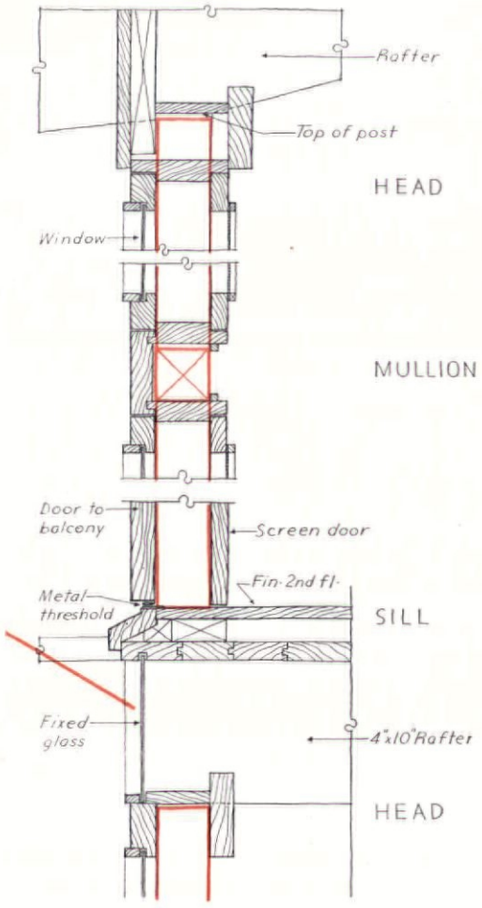
The house has heavy timber construction utilizing 4 x 4 in. posts and 4 x 12 in. joists at 3 foot centers. Interior woodwork is mostly of redwood except for the fir subflooring which, in the living room, is exposed as a ceiling. Other than waxing floors and counter tops no treatment of any kind was given wood interior. Redwood plywood was used for the sliding wardrobe doors. Bathrooms are finished in cypress. Bedroom and library furniture and all built-in lighting fixtures were designed by the architects. Exterior woodwork was treated with a colorless preparation of tung oil base.

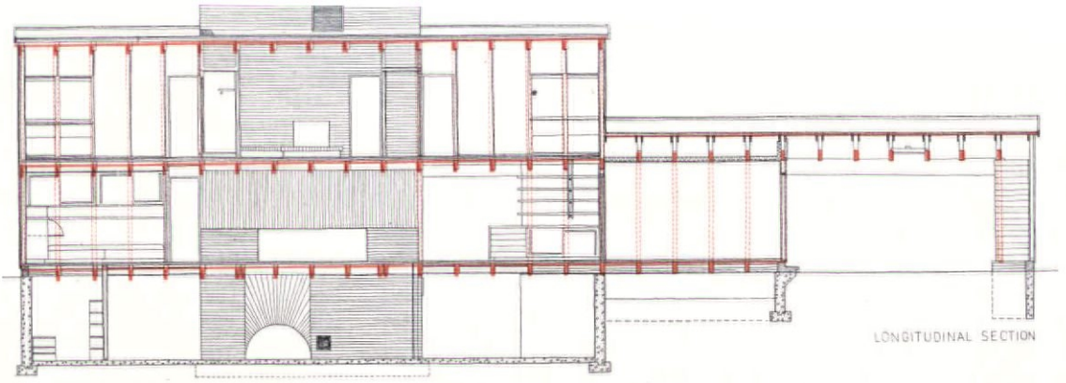


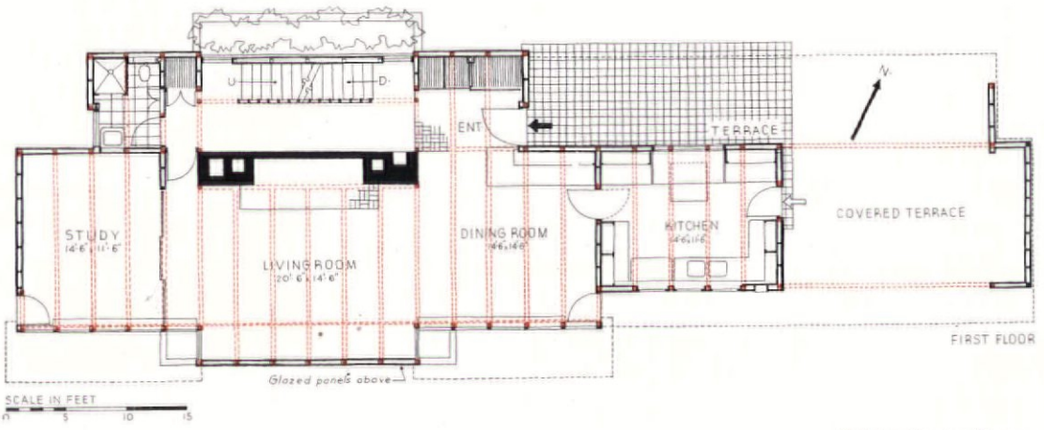
OWNER'S AND GUEST BEDROOMS HAVE INDIVIDUAL DECKS FACING SOUTH

CLOSED SECTION OF WALL FACING THE FIREPLACE IN THE LIVING ROOM IS TOPPED BY GLAZED OPENINGS BETWEEN FLOOR BEAMS

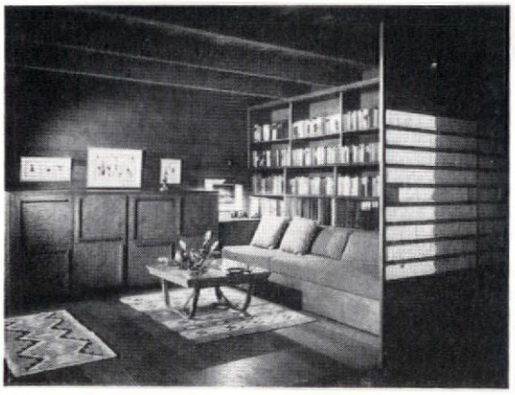


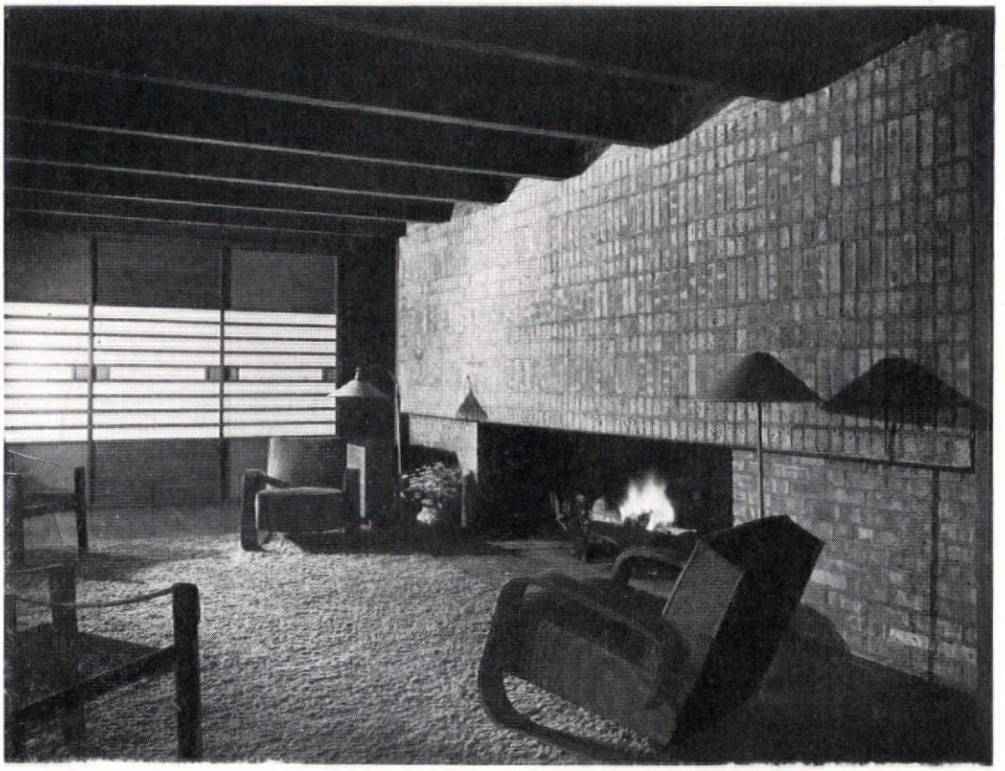




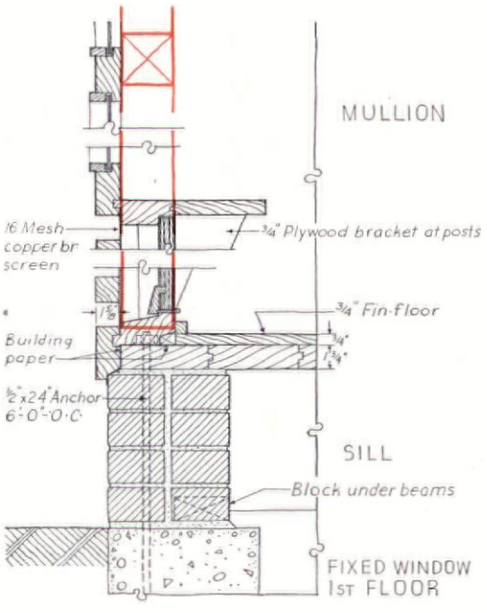


Hedrich-Blessing Photos





SLIDING TRANSLUCENT SCREEN IS USED TO CLOSE OFF LIBRARY FROM MAIN LIVING AREA



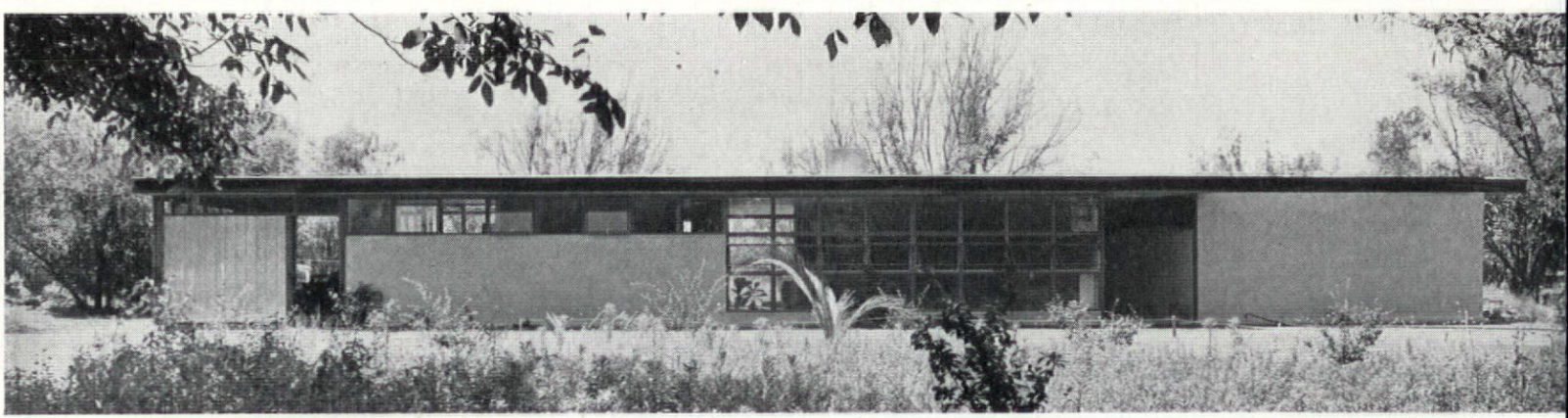
CONSTRUCTION OUTLINE

FOUNDATION—concrete. Waterproofing—integral, A. C. Horn Co. STRUCTURE: Exterior walls—frame, 4 x 4 in. posts and 4 x 12 in. joists at 3 ft. center, redwood siding. Interior partitions—redwood. Floors—wood. ROOF—4-ply, Philip Carey Mfg. Co. INSULATION: Outside walls—Vaporseal, Celotex Corp. Kitchen—rockwool. Roof—rigid insulation. FIREPLACE: Damper—Donley Bros. SHEET METAL WORK: Flashing—copper. WINDOWS: Sash—redwood. Weatherstripping—Chamberlin Co. of America. Glass—Libbey-Owens-Ford Glass Co. FLOOR COVERINGS—Haskelite Corp. and Chas. H. Anderson Floors, Inc. WOODWORK—redwood. HARDWARE—Midwest Hardware Co. and Yale & Towne Mfg. Co. LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliances, Inc. BATHROOM EQUIPMENT—Kohler Co. Shower—Henry Weis Mfg. Co., Inc. PLUMBING PIPES: Soil—cast iron. Vent—galvanized steel. Water—galvanized wrought steel. HEATING—hot water system. Boiler—Pacific Boiler Co. Radiators—U. S. Radiator Co. Valves and water heater—Bell & Gossett Co.

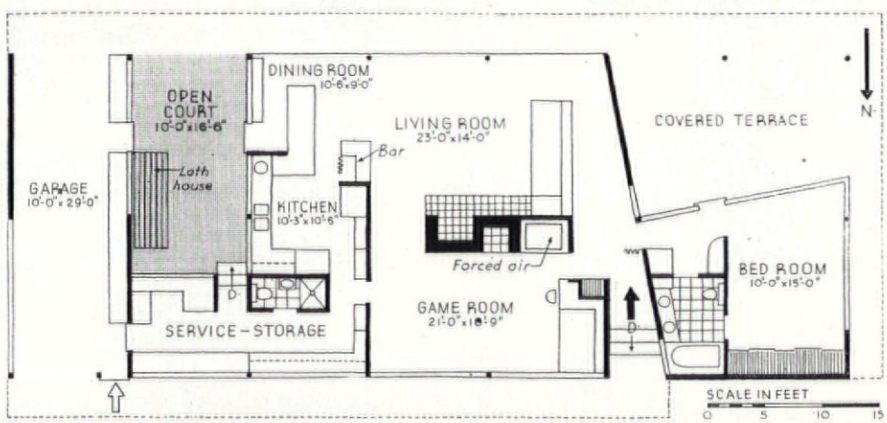
Dexterous handling of steel framing results in a beautifully articulated house

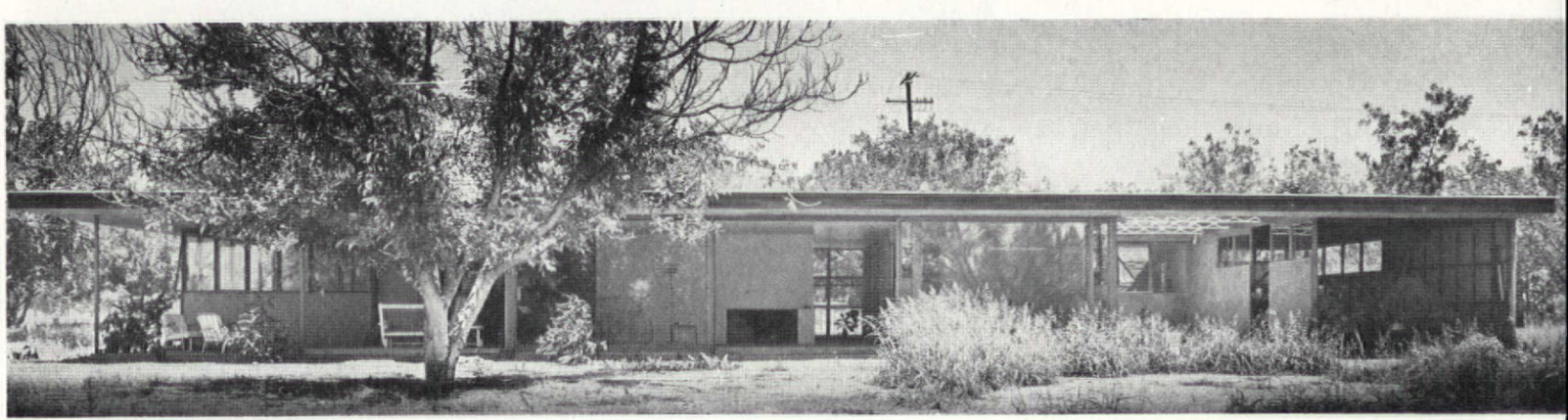
RAPHAEL S. SORIANO, Architect

ELEVATIONS REVEAL AN ARRESTING INTERPLAY OF FORMS AND VALUES. LOWER VIEW SHOWS IDEAL INTEGRATION OF HOUSE AND GROUNDS



Julius Shulman Photos





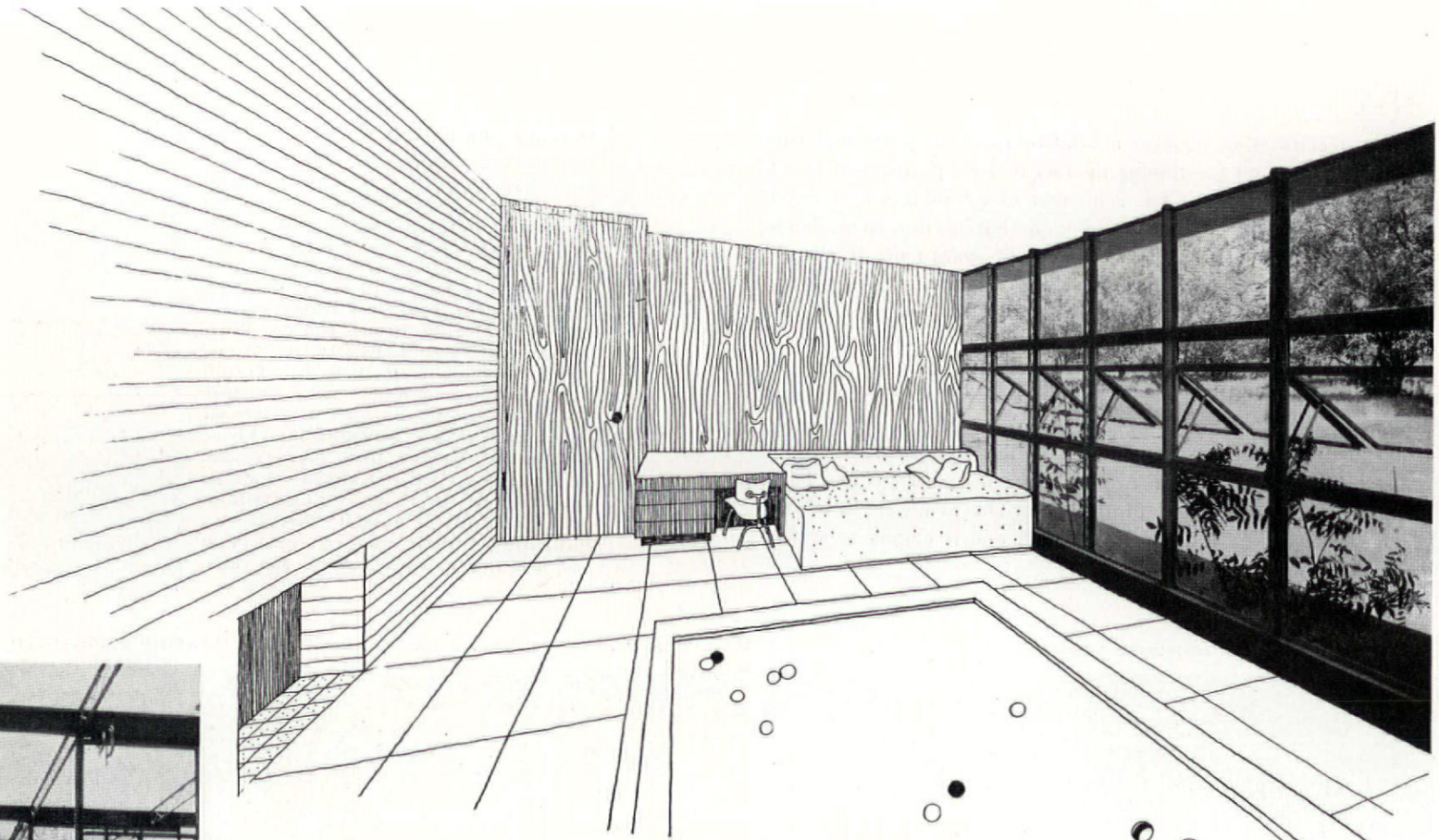
Though steel framing remains a relative rarity in residential construction, there is no questioning the fact that for purposes of speed, efficiency and flexibility it has a number of advantages over wood. The utter simplicity and outstanding design of this small house stands as proof. It is difficult to conceive of space more freely and logically allocated or of a greater feeling of openness. Only in two instances—at the entrance hall and pressing room—has the module of the columns been shifted. A double chimney and ventilating equipment, located in the center of the plan, constitute the sole structural division of the living-dining-recreation area. The master bedroom and bath occupy a wing of their own and are subtly segregated by the use of a diagonal wall in the entrance hall. At the opposite end of the house, a two car garage, open front and back, occurs at the last interval of columns. The arrangement of the kitchen, dining area and bar works well and is closely related to the garden room beyond.

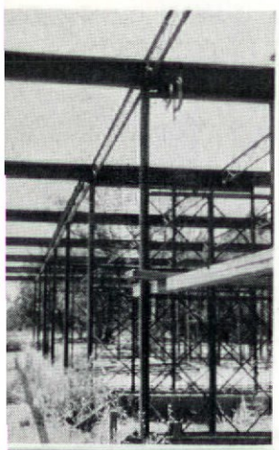
CONSTRUCTION OUTLINE

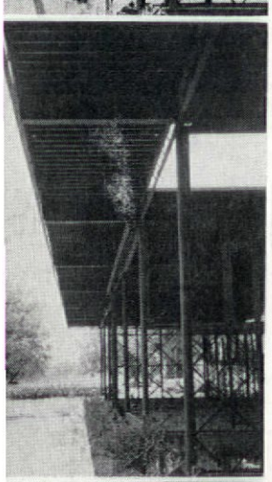
FOUNDATION — concrete. Waterproofing—Johns-Manville Corp. STRUCTURE: Exterior walls—3 in. steel columns and expanded steel studs, Latisteel Corp.; inside finish—plaster or plywood. Floors—concrete or wood. Ceilings—plaster, U. S. Gypsum Co. DECK—steel. INSULATION: Roof—Celotex Corp. SHEET METAL WORK: Flashing—galvanized iron, American Rolling Mill Co. WINDOWS: Sash—steel, Latisteel Corp. Glass—plate, Pittsburgh Plate Glass Co. FLOOR COVERINGS: Main rooms—carpet. Kitchen—linoleum, Armstrong Cork Co. Bathrooms—terrazzo. WALL COVERINGS: Living room and halls—wood, U. S. Plywood Corp. Remainder — plaster. PAINTS — National Chemical & Mfg. Co. ELECTRICAL INSTALLATION — General Electric Co. PLUMBING PIPES: Soil—cast iron. Vent and branch — galvanized iron and cast.

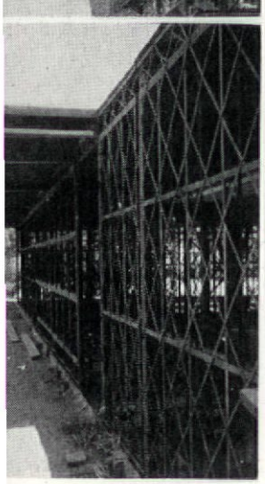
ORCHARD SURROUNDING HOUSE SEEMS A VIRTUAL EXTENSION OF THE LIVING ROOM. HANDSOME DETAIL, GOOD WORKMANSHIP SCORE HIGH



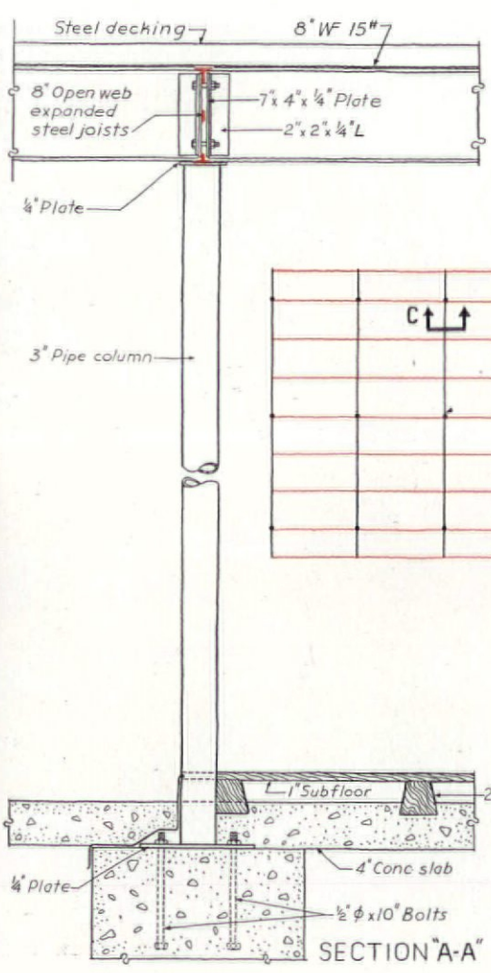


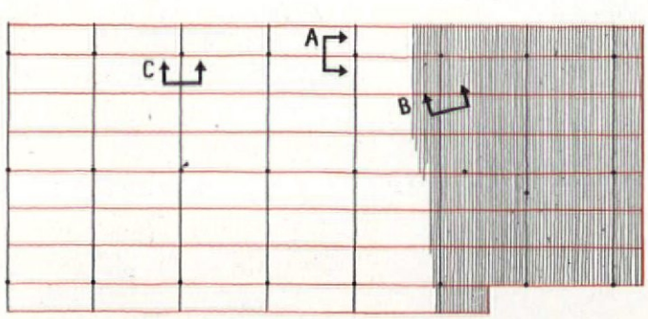




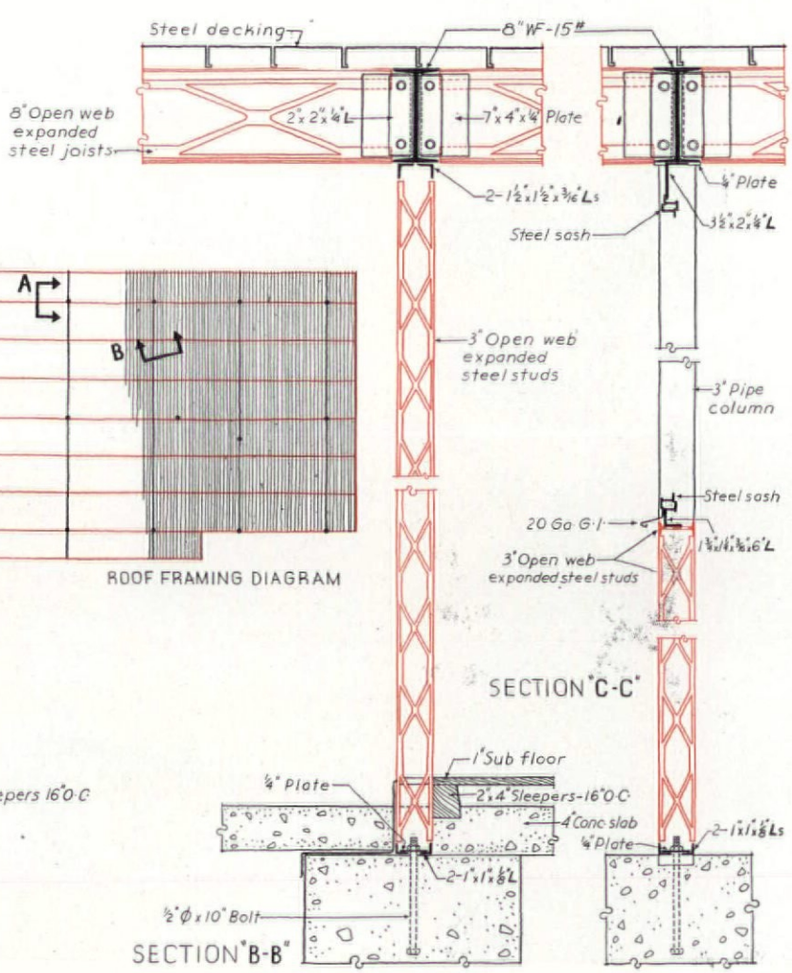


Simplification of the column spacing and economical use of lightweight open-web joists contributes to an overall feeling of lightness and good scale. Corrugated metal roof panels and diagonal wall bracing are two elements which render the building earthquake proof, which, in California, is no small consideration. Windows in the game room have top and bottom glass fixed with awning type sash in the center.





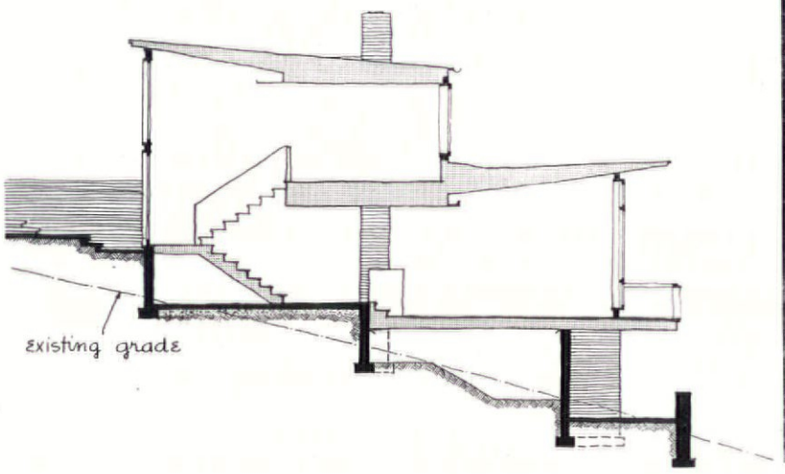
ROOF FRAMING DIAGRAM

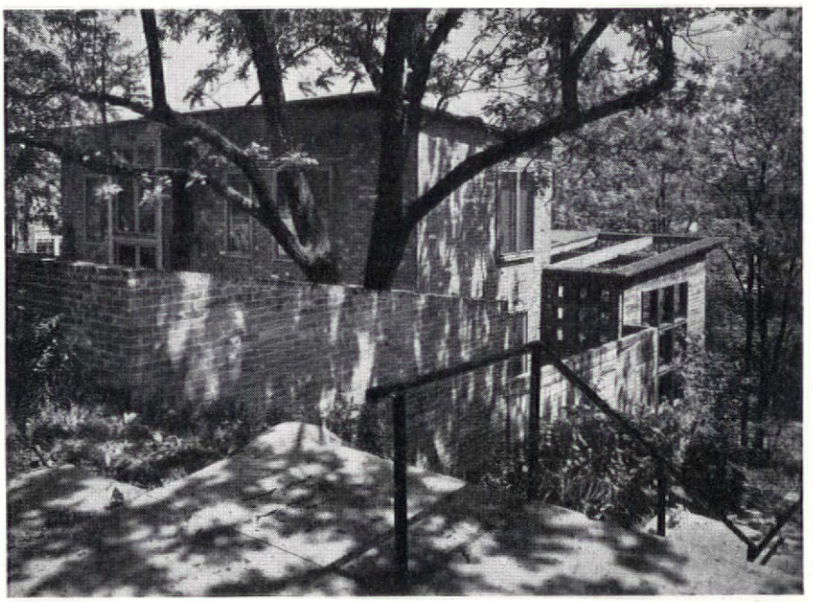


Hillside house, formerly a country store, built to a split level plan

CHARLES GOODMAN, Architect

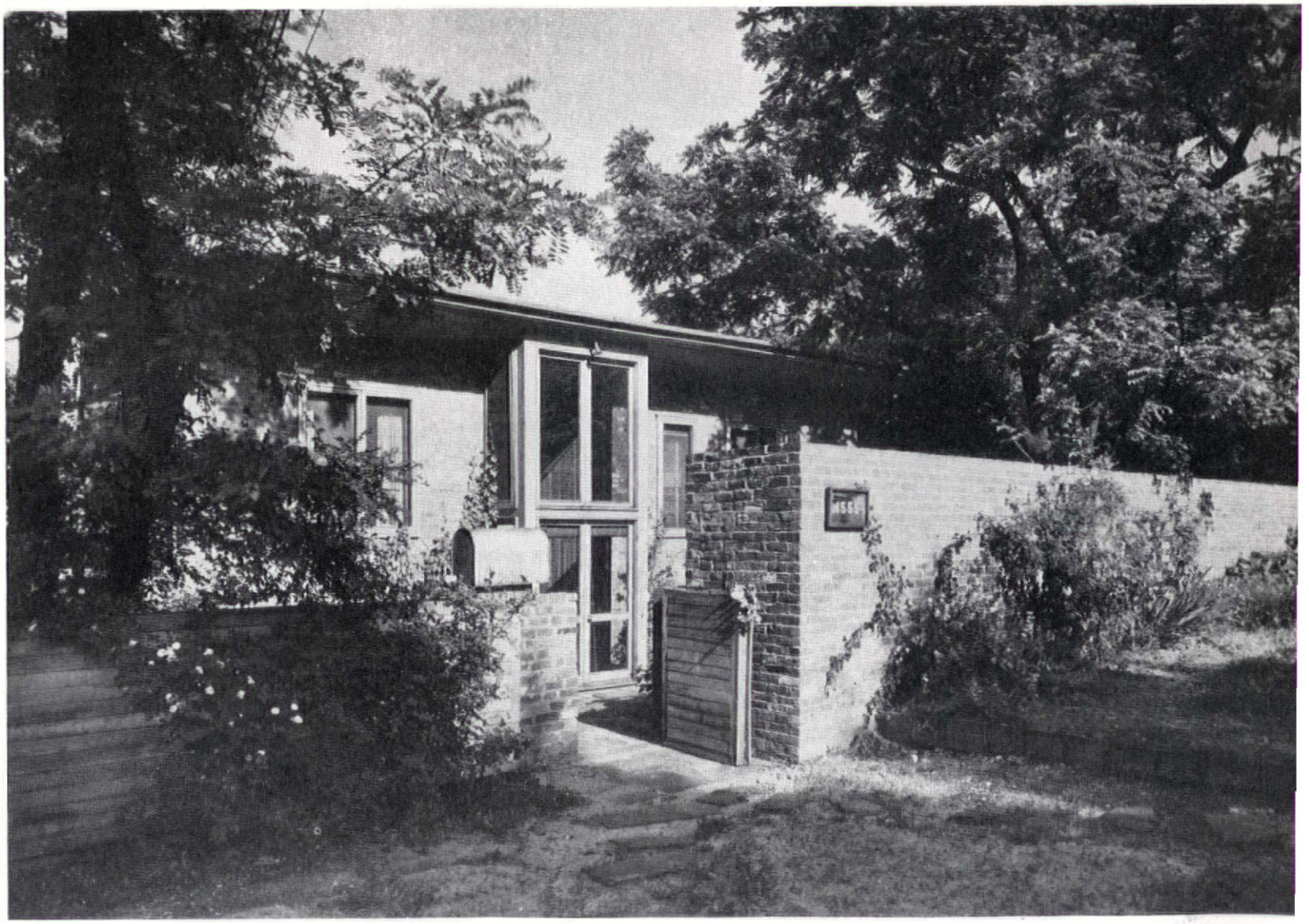
Recalling her native San Francisco, the owner chose this precipitous site as reminiscent of Telegraph Hill. The property, which drops 32 ft., from front to back, is located in the heart of urban Alexandria. The site was originally occupied by an eighteenth century brick structure, which served as a hay, grain and feed store before it was condemned and torn down. Bricks from this old building were re-used for the new house. The split level plan leads up a half flight to the bedroom area, down a half flight to the kitchen, living and utility rooms.





PEDESTRIAN EASEMENT FLANKING HOUSE PROVIDES SERVICE ACCESS

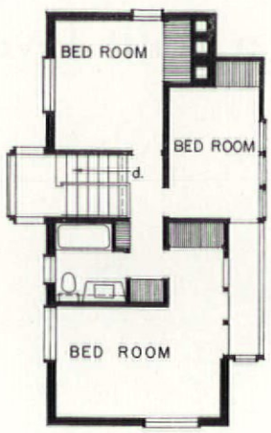
GLASS BAY ENCLOSES A TWO STORY STAIRWELL AND ENTRANCE. BRICK WALL SCREENS OUTDOOR AREA AT TOP OF SLOPING SITE



Whatever its other attributes, the manner in which this house nestles against the hill has impressed the neighbors to the west, who were sure that any average size house built on this property would cut off their view of the river. The only restriction imposed upon the architect was the fact that the house had to sit 20 ft. back from the lot line. Since the property is not large, this represented a substantial sacrifice of more private land at the rear. However, the brick wall on the street side has made a secluded outdoor living area in the front garden.

In relation to the other rooms, the kitchen may appear unusually large. This, however, results from the owner's stipulation that it be planned for informal dining and be made as livable as possible. Walls are of natural pine, cabinets painted pale blue. The floor is of black tile and the counter tops are covered with grey linoleum. The overall effect is one of warmth and friendliness.

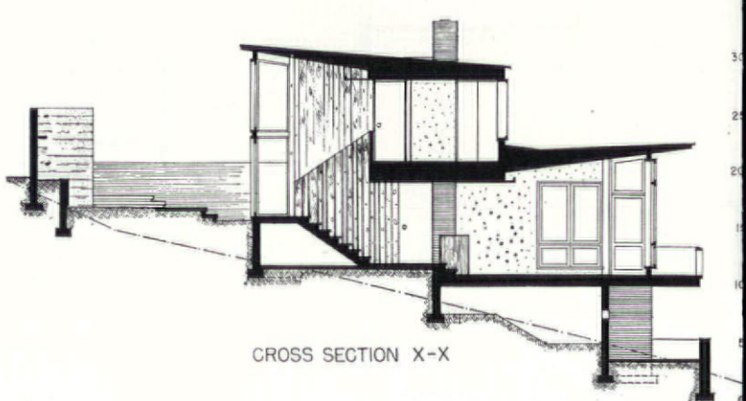
The upper section of the roof pitches toward the lower section with downspouts at the angle to catch water. While this was intended to prevent dripping from the front and back eaves, it has unfortunately proved unsuccessful since the gutters were inadequate in size.



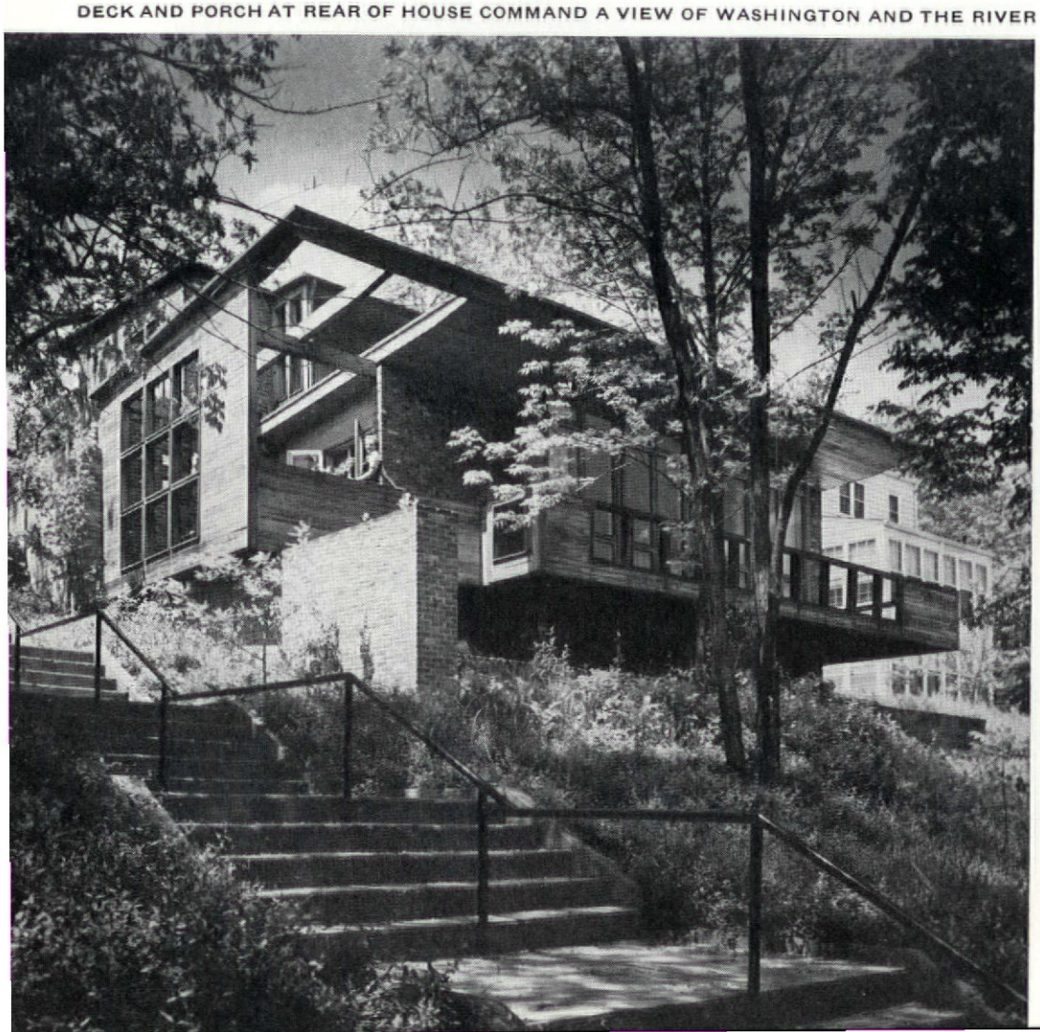
SECOND FLOOR

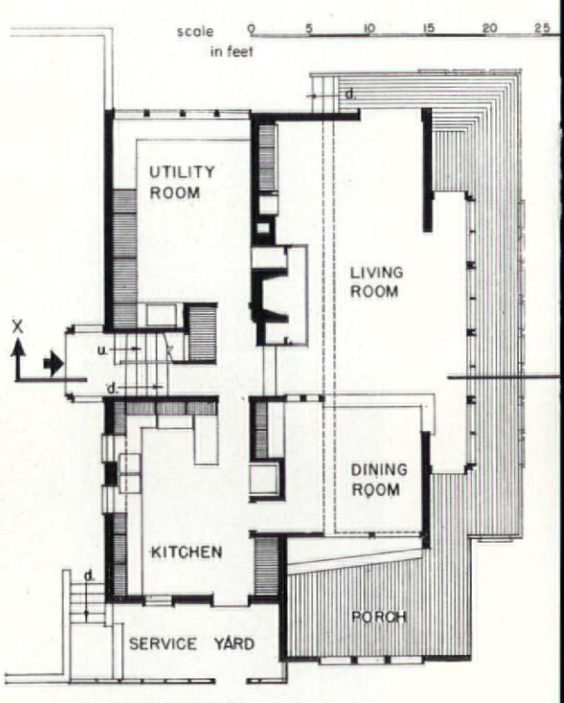
CONSTRUCTION OUTLINE

FOUNDATION—concrete. Waterproofing—hot tar, 1 in. cement parging. STRUCTURE: Exterior walls—brick and cinder block; inside—1 x 2 in. furring strips, insulating lath and plaster. Floors—wood joists, plywood subfloor, oak finish. ROOF—3-ply tar and felt and gravel. Decks—canvas or pine. INSULATION—spun glass, Owens-Corning Fiberglas Corp. SHEET METAL WORK—galvanized iron. WINDOWS: Sash—white pine, casement. Glass—Crystal sheet, American Window Glass Co. STAIRS—oak. FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—asphalt tile or linoleum, Armstrong Cork Co. WALL COVERINGS: Living room—plaster, knotty pine or old brick. Halls and kitchen—knotty pine. Remainder—plaster. PAINTS—Minwax Co. HARDWARE—Schlage Lock Co. and Vincent Whitney Co. ELECTRICAL INSTALLATION: Wiring—BX. Switches—General Electric Co. Fixtures—fluorescent. KITCHEN EQUIPMENT: Range and refrigerator—General Electric Co. BATHROOM EQUIPMENT—American Radiator-Standard Sanitary Corp. PLUMBING PIPES: Soil—extra heavy cast iron. Vent—wrought iron. HEATING—forced warm air system, Quiet May Oil Burner Corp. Regulator—Minneapolis-Honeywell Regulator Co. Water heater—General Electric Co.

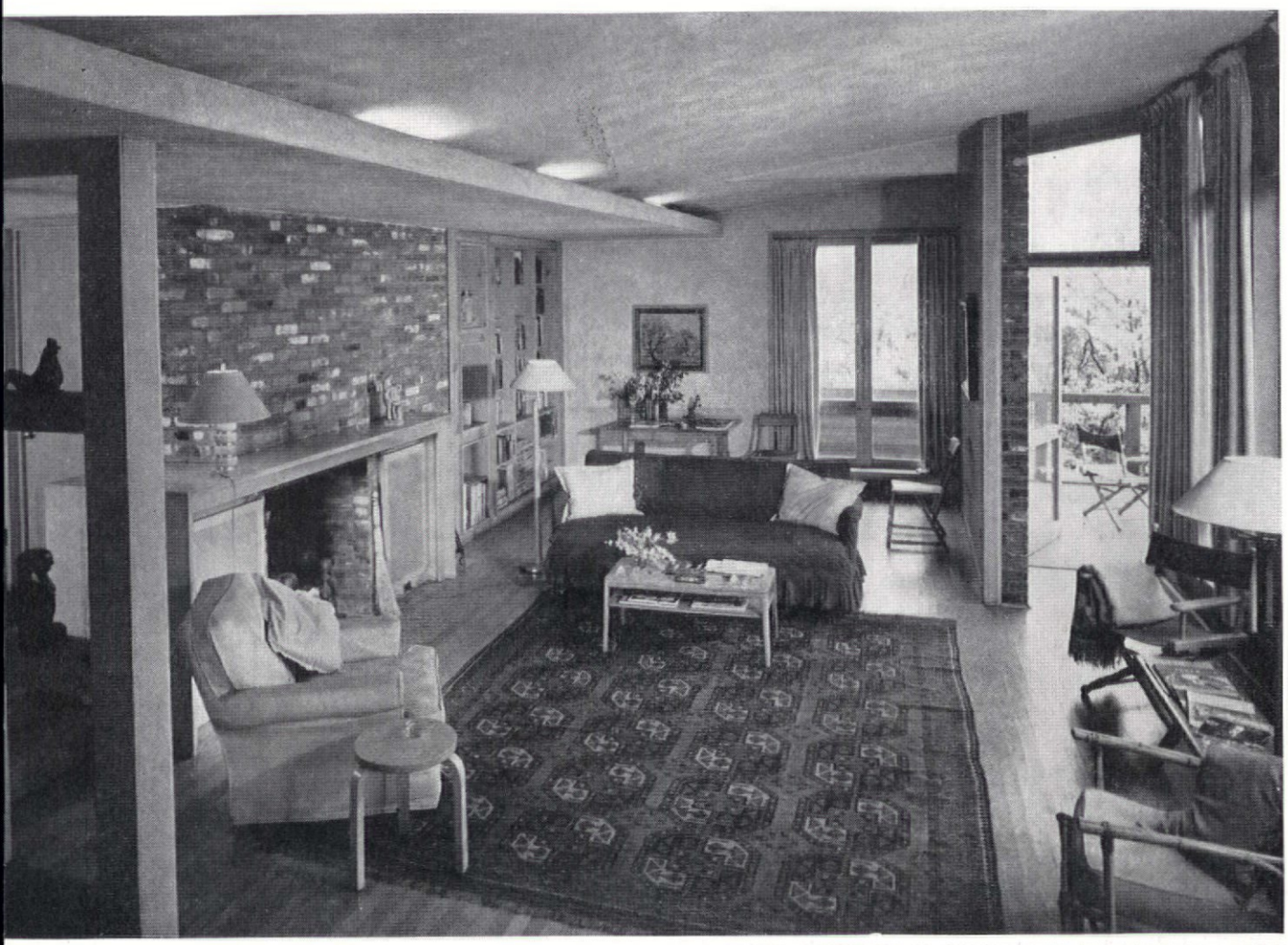

CROSS SECTION X-X

DECK AND PORCH AT REAR OF HOUSE COMMAND A VIEW OF WASHINGTON AND THE RIVER





FIRST FLOOR



LIVING ROOM CEILING FOLLOWS ROOF'S GENTLE SLOPE. ARTIFICIAL LIGHTING IS CONCEALED BY NARROW LEDGE

Rodney McKay Morgan Photos

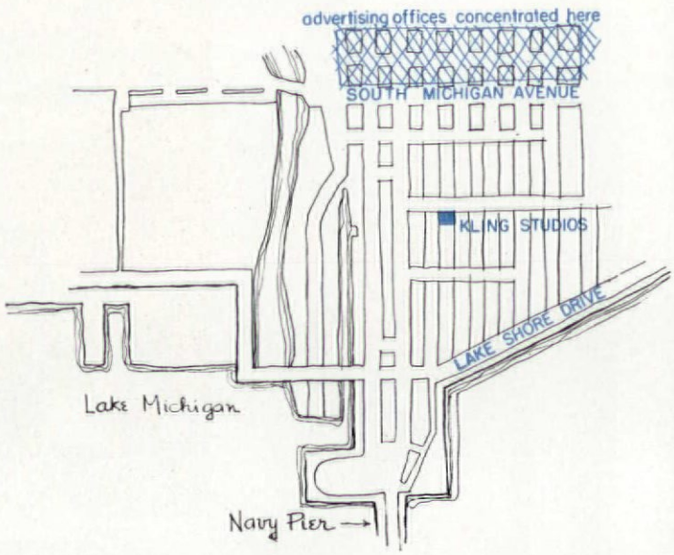


KITCHEN IS PLANNED AND DECORATED FOR CONVENIENCE AND LIVABILITY, DINING ROOM SIDEBOARD BUILT-IN



PHOTOGRAPHIC AND ART STUDIO

A downtown Chicago building is designed to make work more efficient, business more plentiful and life more pleasant.



HENRY P. GLASS, Designer
FRIEDMAN, ALSCHULER & SINCERE, Architects & Engineers
GERHARDT F. MEYNE, General Contractor

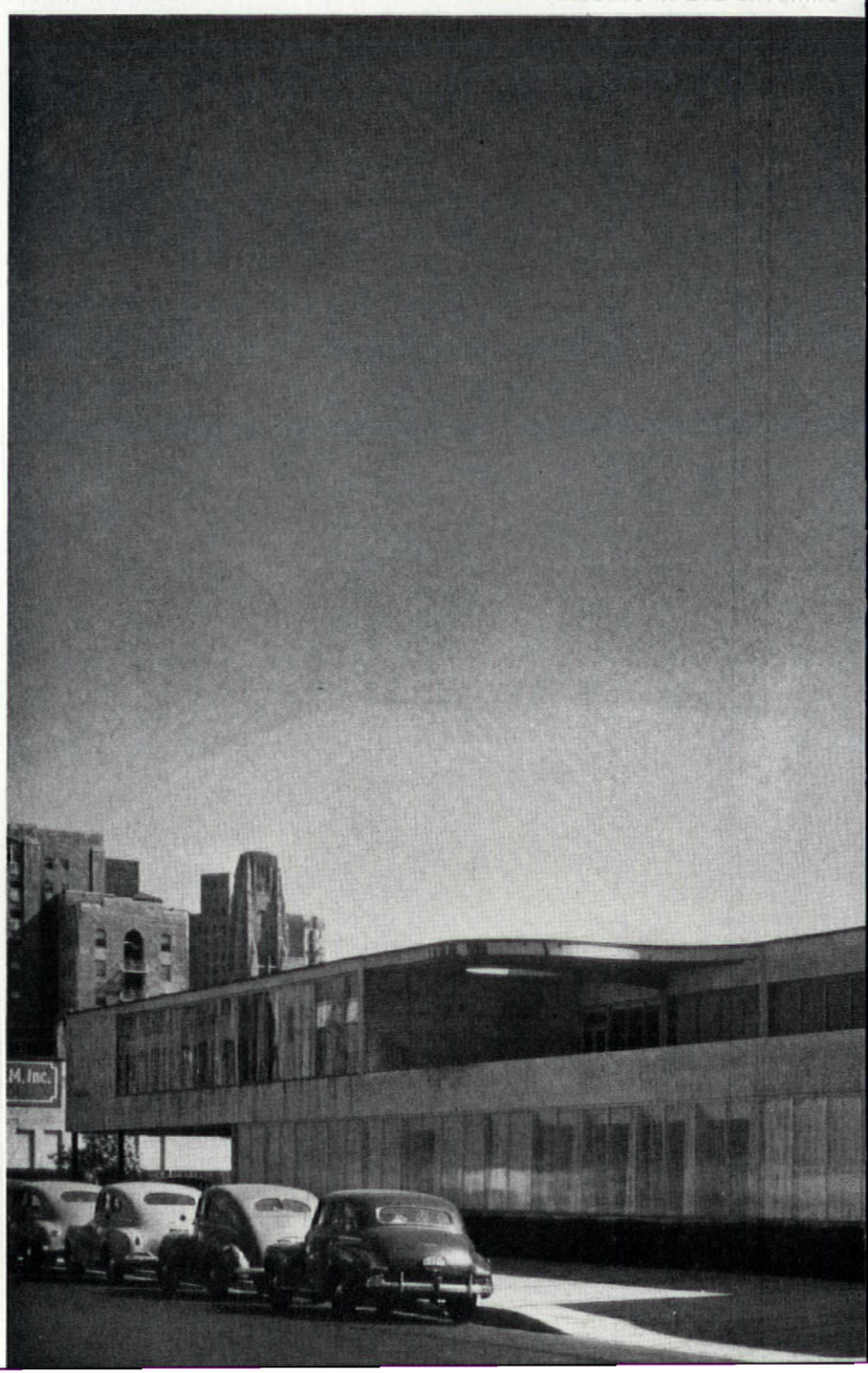
A plant for the production of fine commercial photography and artwork and a sales room for both, the new Kling Studios building in mid-Chicago is designed to operate with the efficiency of a modern factory and the sales appeal of a Michigan Avenue shop. Kling's two production lines are manned by highly talented and temperamental artists, and the air conditioned work areas are designed to attract them, keep them happy and keep them working. Public spaces, such as the reception room, lounge, exhibit hall and head offices, are styled to impress visitors with Kling's good taste and to sell it to them. Outside, the low, clean lines of the building, contrasting sharply with its ornate surroundings, constitute as eye-catching a piece of advertising as ever came from Kling's shipping room.

In a position to capitalize on its interior efficiency and outdoor advertising value, the new building puts its most attractive profile (photo, right) to East Ohio St., a heavily trafficked link between Michigan Avenue and Lake Shore Drive. The Avenue is the address of Chicago's big advertising agencies; the Drive is the route most big business executives travel between their Chicago offices and north shore suburban homes. Such agencies and executives are Kling's customers — actual and potential — and several have admittedly been attracted to Kling by the appearance of the new building. By thus attracting clients directly, the new building is serving well two additional purposes: 1) to lift the business high above its reputation as a stepchild of the advertising agencies and 2) to draw back to Chicago some of the business which the city recently lost to East Coast competitors.

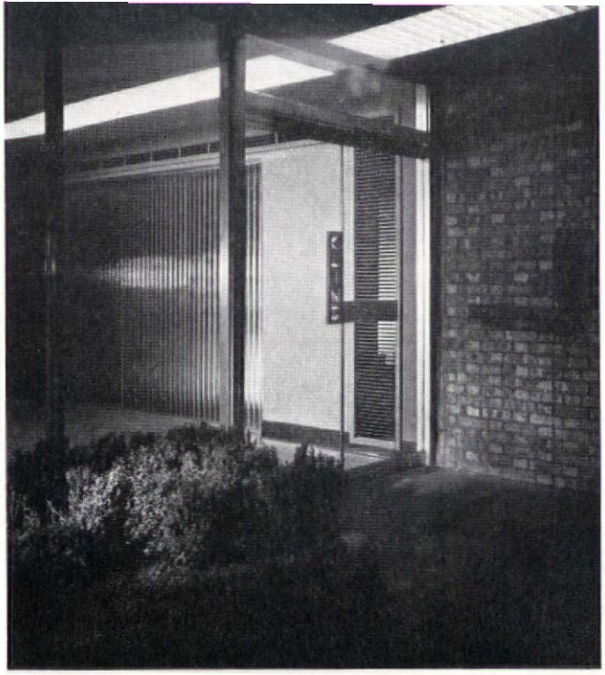
Confronted with the limiting requirements of reasonable cost and utmost speed, the associated designer-architects combined imaginative design and relatively inexpensive materials to produce in record time,'* one of Chicago's most attractive, most efficient, most talked about commercial buildings.

* Kling began moving in six months after ground was broken.

FRANK EXPRESSION OF BUILDING'S ARRANGEMENT RESULTS IN EYE-CATCHING



Photos by Kling Studios



MAIN ENTRY AT NORTHWEST CORNER
IS LIGHTED BY CEILING FLUORESCENT PANEL
WHICH LEADS VISITORS TO
RECEPTIONIST'S DESK IN THE LOBBY

APPEARANCE. TERRACE PROVIDES SPACE FOR GARDEN AND FUTURE EXPANSION. SOUTHWEST CORNER PROJECTION SHELTERS REAR EXITS

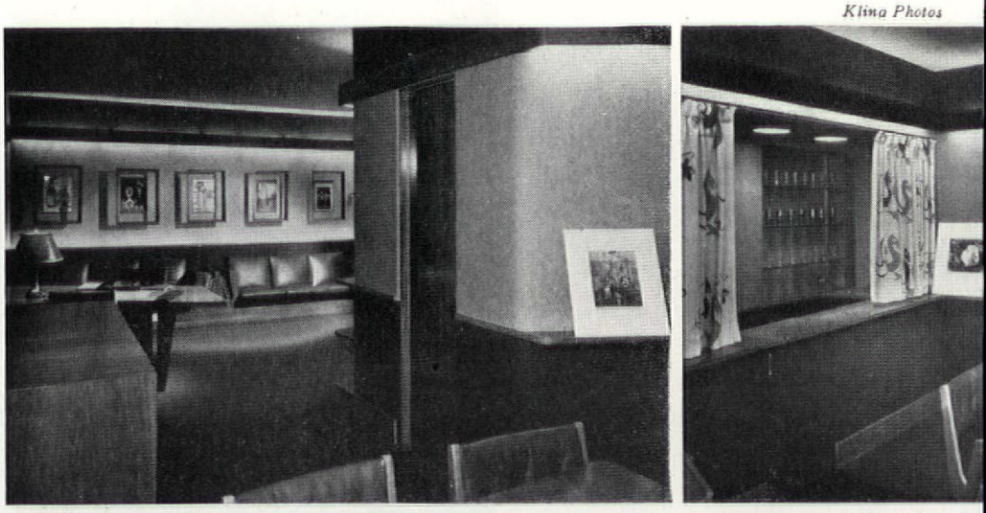


PUBLIC SPACE is provided in glamorous abundance to attract visitors, talent and clients.

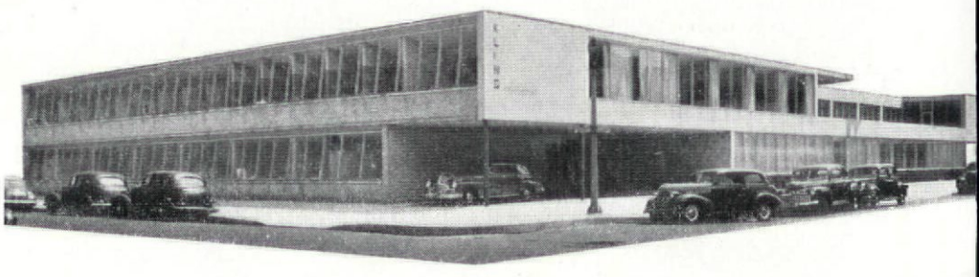
For a plant of its type and size Kling Studios contain an above-average allotment of public space. But, it is put to good use. The visitor's taxi deposits him directly at the corner entrance, sheltered from Chicago's stormy weather by a second-floor projection. Only a glass wall and a planting box separate the driveway from the inviting reception room (right, below). Up an easy ramp, which circles a built-in battery of comfortable chairs, is a combination lounge and exhibit room (opposite page).

When traveling art and photo exhibitions are not being shown, the well-lighted, permanent easles which surround and divide the lounge are used to display the work of Kling's own artists. Thus, there is always a show in progress to attract the public and, more particularly, art students and professionals. The latter cannot help but be impressed with the Kling building as a comfortable place to work — eventually or immediately. Also lined with display easles for Kling artistry, communication halls are converted from otherwise dull corridors into lively galleries which save Kling salesmen a lot of words when cultivating new clients. Likewise, the offices of president and vice president (right, above) are conference rooms with built-in furniture and picture panels designed for the optimum display of Kling handiwork.

Kling Photos

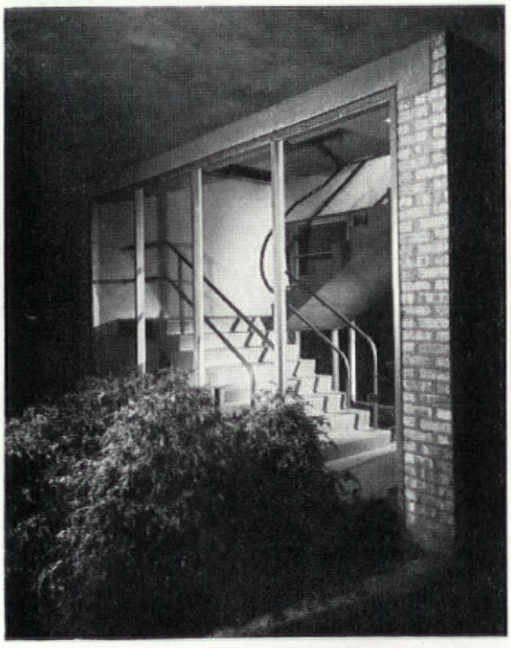


VICE PRESIDENT'S SUITE CONTAINS CONFERENCE ROOM, BATHROOM AND BAR

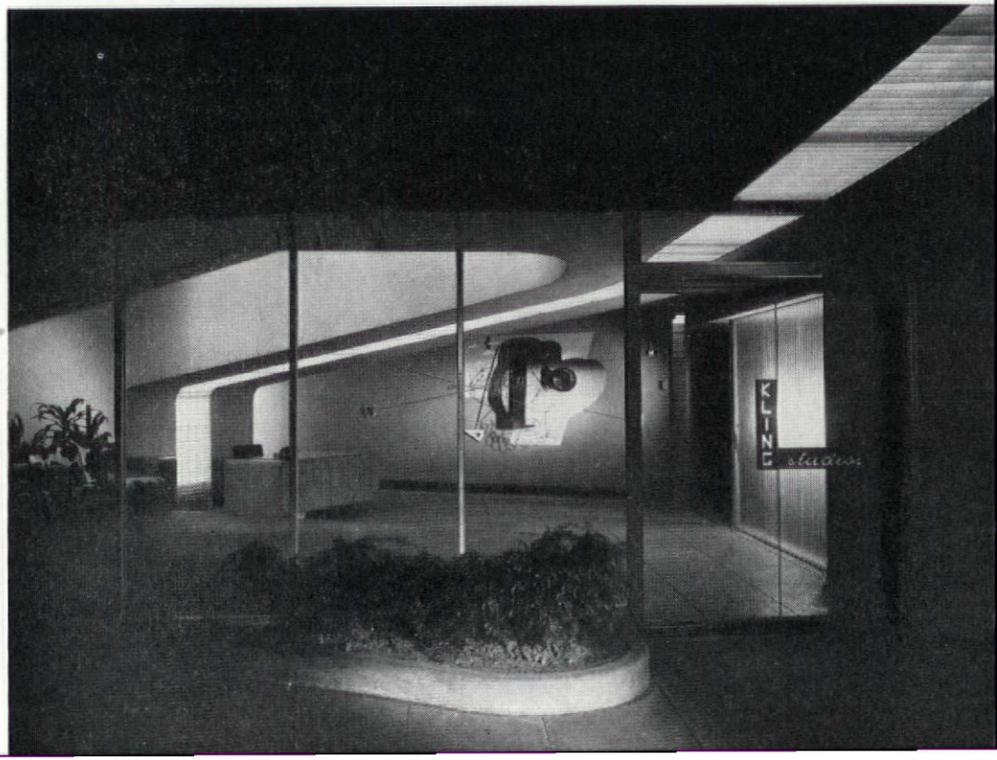


SLOPING NORTH WINDOWS BEYOND ENTRANCE CORNER LIGHT ARTISTS' STUDIOS

GLAZED EXIT DROPS TO PRIVATE CAR PARK

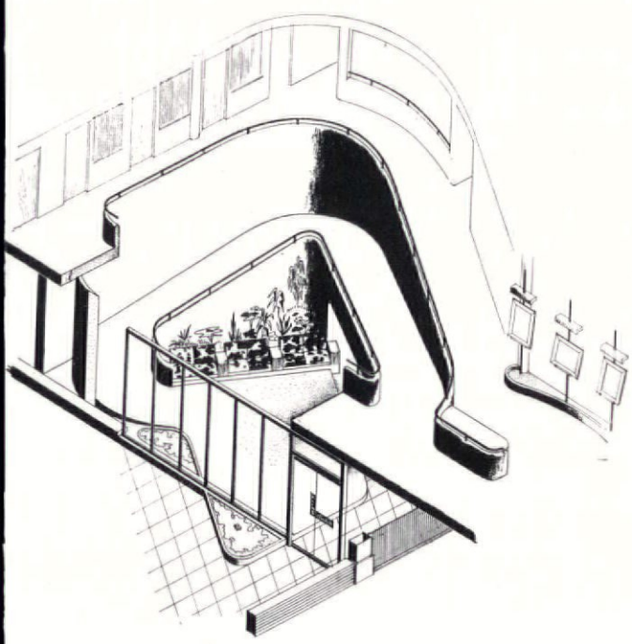


RECEPTION ROOM WITH THREE-DIMENSIONAL MURAL OPENS TO PORTE-COCHERE





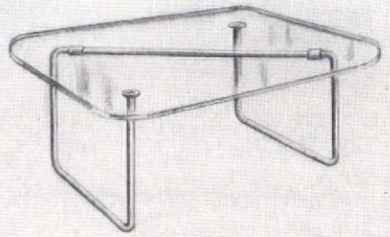
SECOND FLOOR LOUNGE IS PLANNED TO FUNCTION AS AN ART EXHIBITION HALL

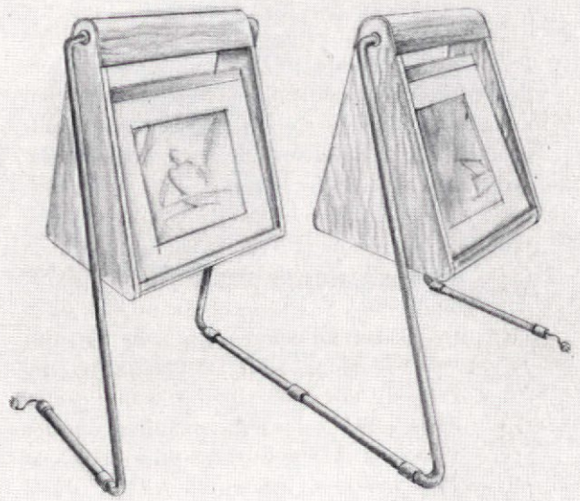


FURNITURE DESIGN, like the building design, was conceived by Henry P. Glass. Of sturdy but inexpensive construction, many pieces feature a black iron pipe frame which relates them to such building details as the ramp railing (see photo below). The seven two-way easles pictured above are hung from a continuous piece of pipe and lighted from above and within to permit the interchange of mounted pictures and color transparencies.

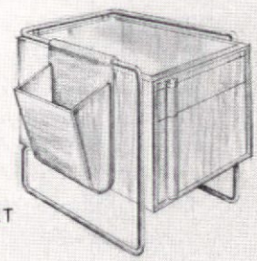
RAMP PROVIDES ACCESS BETWEEN RECEPTION ROOM AND EXHIBITION HALL



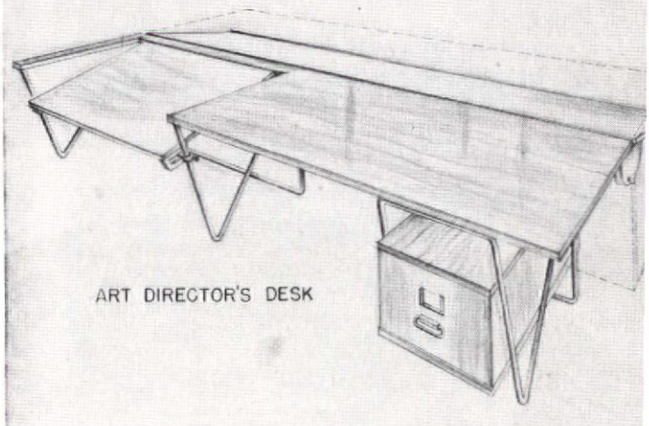




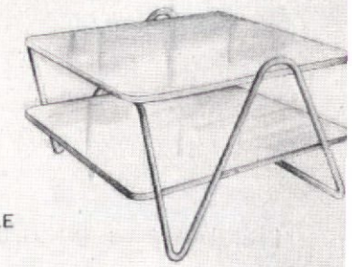
DISPLAY EASEL



ARTIST'S TABOURET



ART DIRECTOR'S DESK

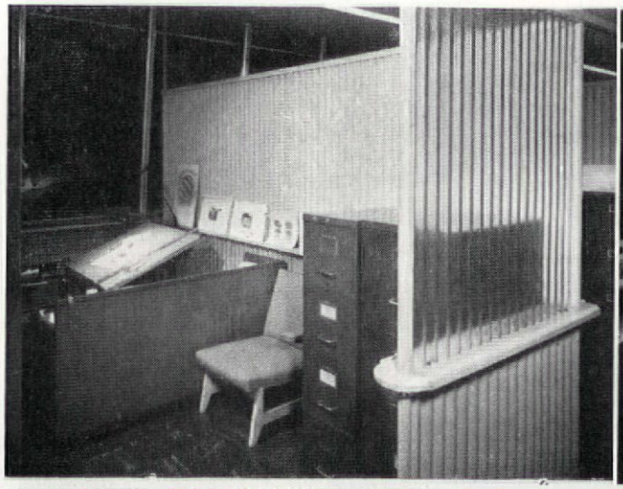


END TABLE

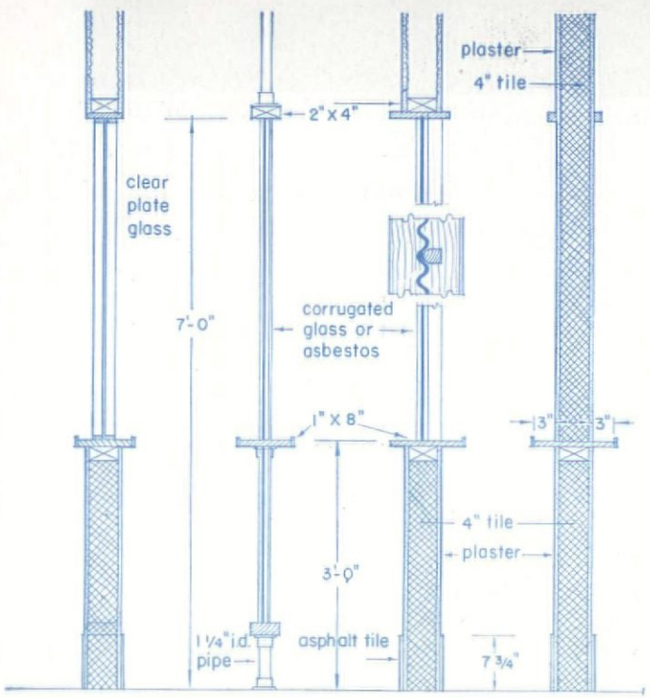
WORK AREAS are intelligently planned, expertly lighted and economically subdivided.

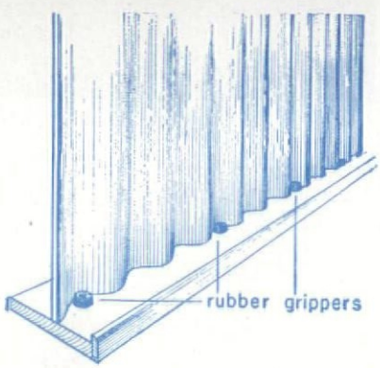
The huge two-story photographic studio pictured on the opposite page is big enough to accommodate a prefab house, airplane, cross-country bus and a dozen model rooms at the same time. Built around it are smaller work areas located in relation to their need for natural light. The north wing with its sloping glass walls houses the photo retouching department (right, below), and, on the upper floor, the artists' studios (right, above). A few top-ranking artists occupy more elaborate, more private second floor studios on the west (right, above) along with administrative and sales offices. In the south wing are concentrated the building's services. The remaining interior space is devoted to shipping facilities and those phases of photography which require no natural light.

Artificial light throughout the building is provided by recessed egg-crate fluorescent fixtures arranged in tandem and positioned to direct light on the built-in work surfaces and display racks. Artificial lighting of corridors, lounge and interior offices is supplemented by natural light borrowed from outside rooms through corrugated glass partitions. Where borrowed light is not required, these partitions are finished with cement asbestos board with matching corrugations.



CORRUGATED SCREENS DIVIDE NORTH STUDIOS; OTHERS ARE ENTIRELY PRIVATE





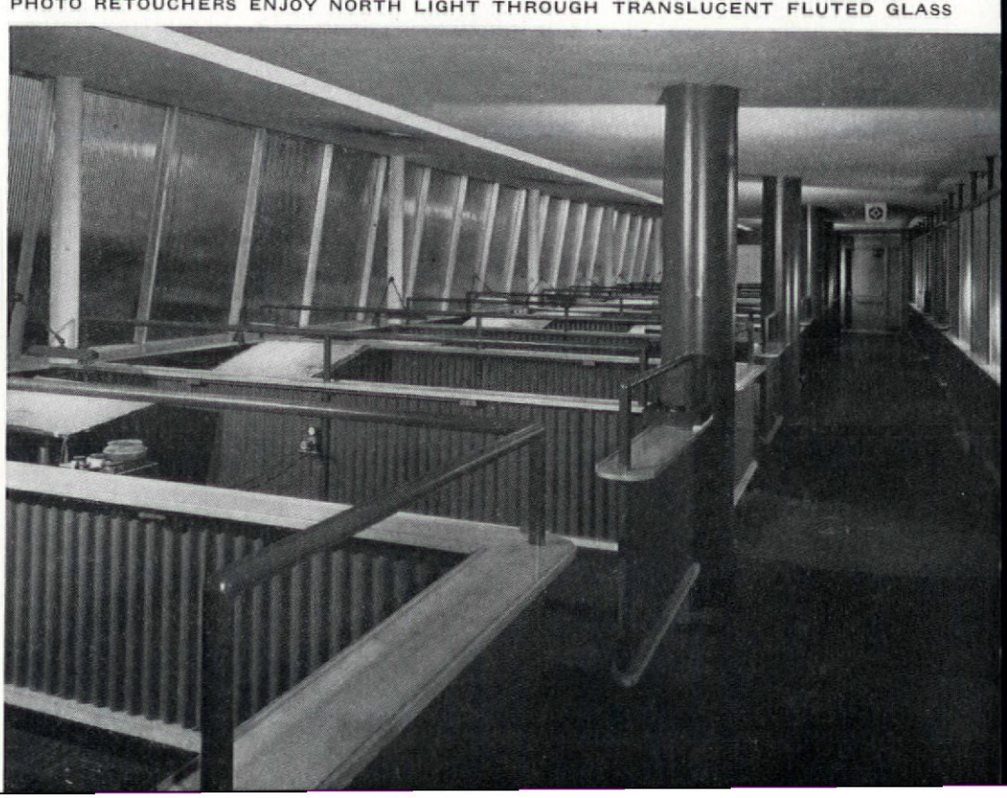
LIGHT-WEIGHT PARTITIONS of corrugated glass and cement asbestos board are simply designed, easily constructed. All four varieties carry picture ledges on either side which tie into window sills and permit the occupant of any room to stand mounted pictures against any wall. In the retouching room (below), glass is replaced by iron piping which serves as a back rest for photos. These short partitions are raised 8 in. off the floor to facilitate cleaning.

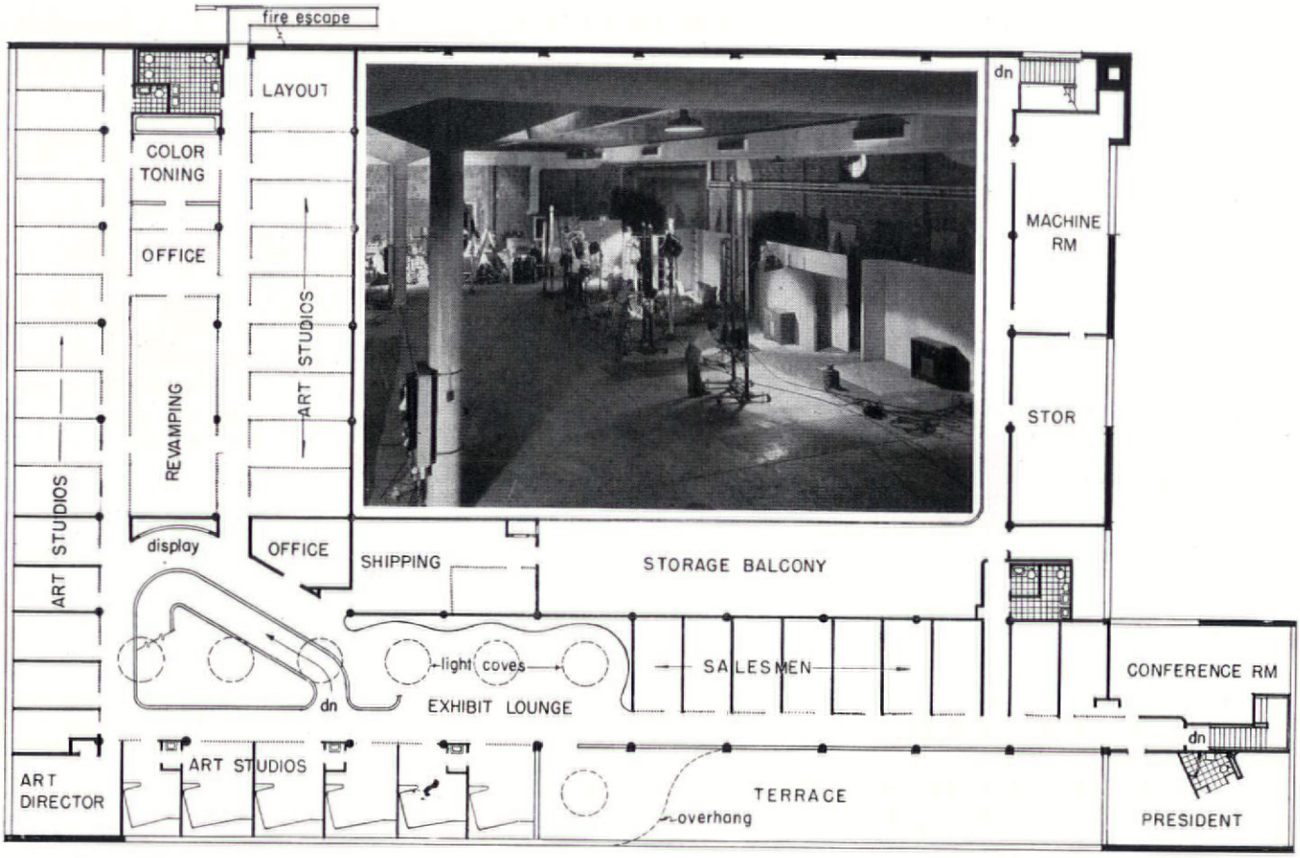
PHOTO DIRECTOR HAS LARGE CORNER OFFICE



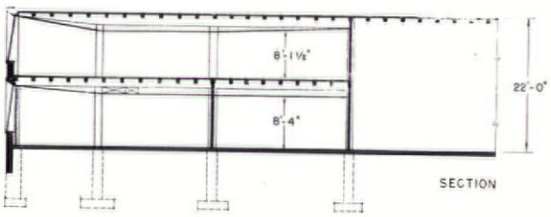
Kling Studios

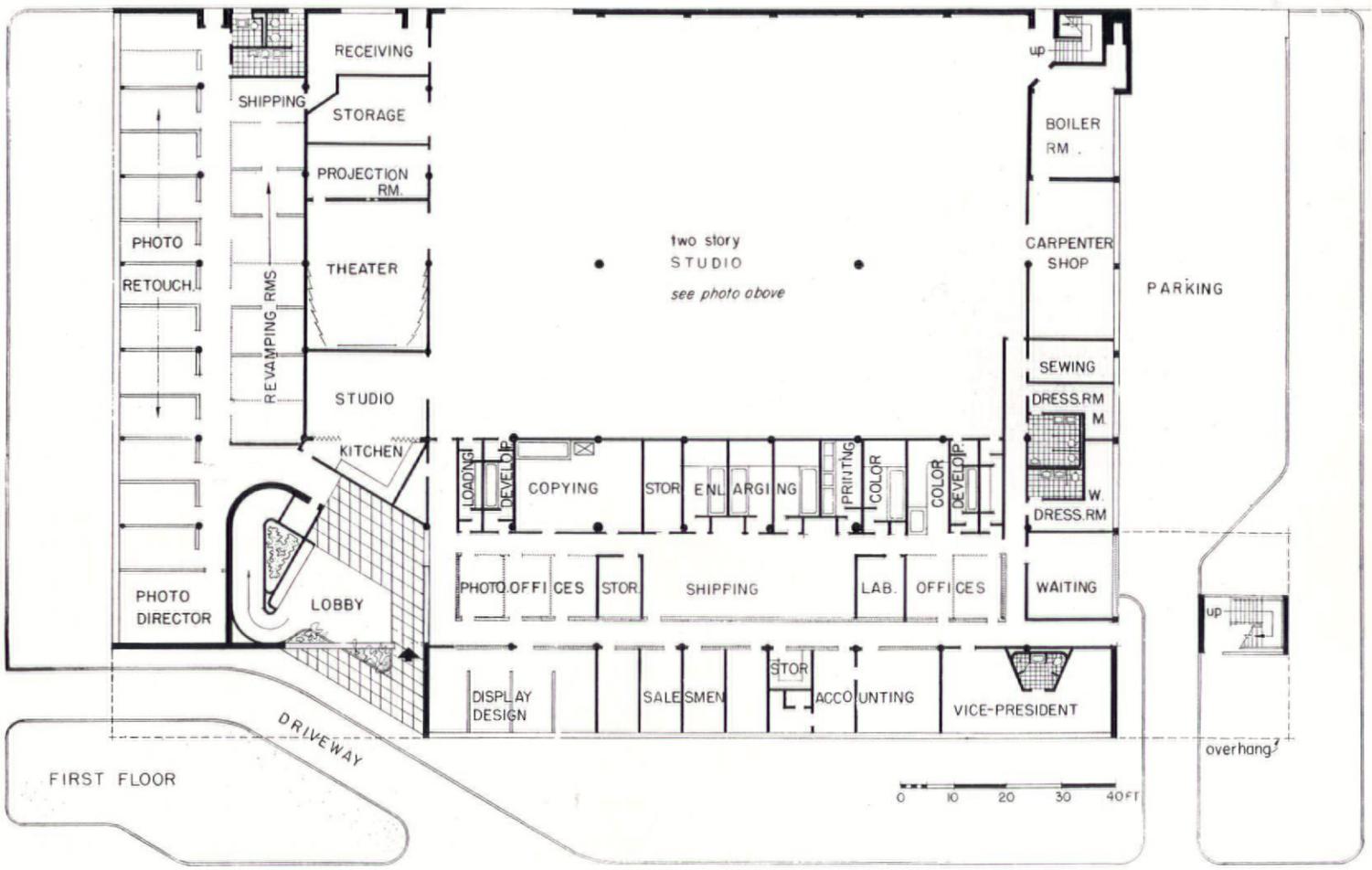
PHOTO RETOUCHERS ENJOY NORTH LIGHT THROUGH TRANSLUCENT FLUTED GLASS





SECOND FLOOR





FINANCIAL ANALYSIS of rents, costs and investment return justifies the decision to build.

When Kling Studios were organized 15 years ago they occupied half a floor in one of Chicago's towering office buildings at a rental of $1.40 per sq. ft. During the war, when the company expanded to four floors under the pressure of Navy work, the rental was doubled. Then the building was offered for sale. Kling tried to buy it, bid up the price by some $150,000, then withdrew, sadly aware that rents would be hiked by the new owner to offset his boosted price.

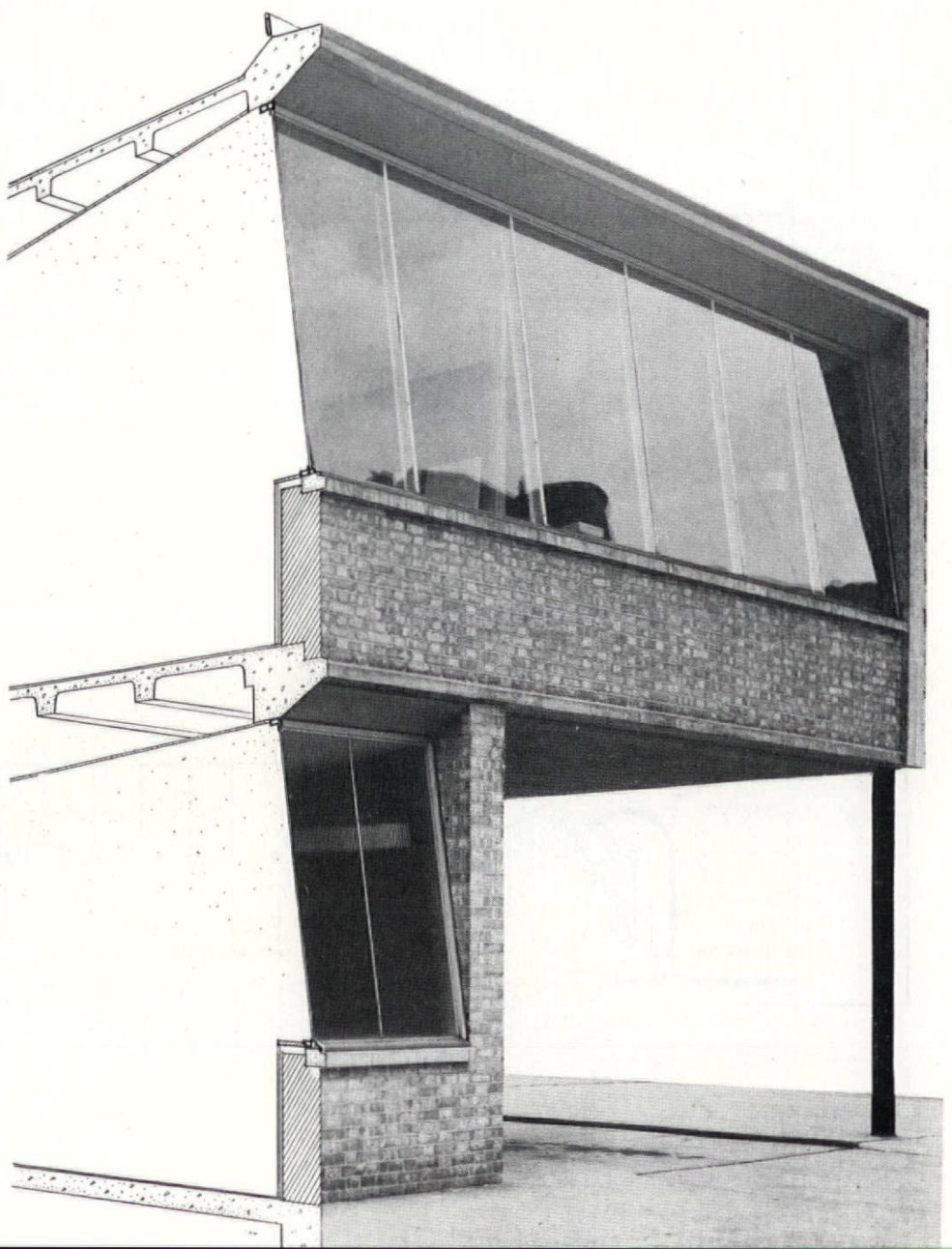
Against a high rental for space which, even after extensive remodeling, would be far from ideal, Kling balanced the cost of building its own plant. The price of conveniently located land at about $3.50 per sq. ft. and the estimated cost of building at $14 per sq. ft. looked good beside the $2.80 annual rental then being paid. It looks still better today beside the $4.00 per sq. ft. being asked for the space Kling formerly rented. This picture is also improved by the fact that Kling's land has gone up in value to $6 or $7 per sq. ft., thanks to the assembly of nearby parcels for the construction of a huge hospital project. Operating contrarywise, total investment in building, equipment and furnishings came to about 40 per cent more than the $500,000 original estimate, due primarily to overtime payments and increased wages paid building mechanics. However, including payments to Northwestern University on a 15 year mortgage (covering about 35 per cent of the investment) and interest on the equity money, building and operating costs still beat the $4 per sq. ft. rental which Kling avoided by building.

Not reflected in these figures is the fact that the building investment is paying even bigger dividends than originally hoped for. Since moving in, the business has expanded three-fold, and Kling estimates that about half of the new business is directly attributable to the advertising value and increased capacity of the modern plant. Moreover, efficiency of operation due to the building's planned production layout, controlled interior weather* and improved working conditions represents an annual financial saving reckoned in five-digit figures.

Although admittedly envious of such efficient, air conditioned production facilities, many of Kling's competitors are dubious of the business' ability to support such an elaborate plant. Kling officials admit that several competitors are hopefully waiting to buy the building cheaply at a foreclosure sale.** But, these are the same prophets who years ago predicted that the remodeling of Kling's former offices would not pay off. (It did pay off and provided cash for the new building.) The actions of other competitors reflect a confident attitude similar to Kling's: one has already begun a new building two blocks away, another is about to start.

CONSTRUCTION OUTLINE

FOUNDATIONS—reinforced concrete. STRUCTURE: Exterior Walls — stone, common brick, dampproofing, plaster; inside partitions — clay tile and plaster or glass and corrugated cement asbestos—Philip Carey Mfg. Co. Columns—reinforced concrete or Lally, Lally Column Co. ROOF — reinforced concrete; tar and gravel Barrett Co. INSULATION: Roofs — Celotex Corp. Sound insulation — Accoustone, U. S. Gypsum Co. WINDOWS: Sash — aluminum, Kawneer Co. Glass—Mississippi Wire Glass Co., Blue Ridge Glass Corp. and Libbey-Owens-Ford Glass Co. FLOOR COVERINGS — asphalt tile, Thomas Moulding Floor Mfg. Co.; rubber base, Wright Rubber Products Div., Taylor Mfg. Co. DOORS—Nollav & Wolff Mfg. Co. and Tuflex, Libbey-Owens-Ford Glass Co. HARDWARE—Yale & Towne Mfg. Co. and Oscar C. Rixson Co. PAINTS—The Glidden Co. ELECTRICAL INSTALLATION: Switchboard and panels — Chicago Switchboard Co. Conduit — Triangle Conduit & Cable Co. Switches — Arrow, Hart & Hegeman Electric Co. Wire and cable—John R. Roebling Sons Co. Fixtures—All-bright Electric Products Co. PLUMBING FIXTURES — Weil-McLain Co., Kohler Co., Crane Co., Wade Mfg. Co., Chicago Faucet Co., Fiat Metal Mfg. Co. and C. F. Church Mfg. Co. Filters — Filtrene Mfg. Co. and International Filter Co. Pipes — Alabama Pipe & Foundry Co. and National Steel & Tube Co. Covering — Johns-Manville Corp. HEATING AND AIR CONDITIONING: Heating — steam, forced circulating hot water system. Air Conditioning—Carrier Corp. Boilers: Heating—Pacific Boiler Co., Div., U. S. Radiator Corp.; hot water, American Radiator-Standard Sanitary Corp. Oil burner — Combustion Equipment Div., Todd Shipyard Corp. Convectors, reheaters and coils—Trane Co. Pumps—Chicago Pump Co. Regulators—Johnson Service Co. and Powers Regulator Co. Fans—American Blower Co. Valves — Crane Co. and Sloan Valve Co. Water heaters — Patterson & Kelley, Inc. and Bell & Gossett Co. Filter—electronic, American Air Filter Co.



* Air conditioning not only stimulates employee output during Chicago's hot, humid summers but also permits close control of sensitized paper, an important consideration in fine color photography.

** In such an unfortunate and unlikely event, the mortgagee would probably invite night club managers to enter the bidding, for the Kling building, located across the street from famous Chez Paris, could easily be converted to a swank night club.

PLASTIC PARTITIONS AND WINDOWS recommended as a peacetime application of a war-proved product. The Architects Collaborative analyzes advantages and limitations of transparent acrylic plastic, suggests its possibilities in building field.

Although cast sheets of acrylic plastic were made commercially available in 1935, it took a world war to demonstrate the possibilities of this strong, light-weight, transparent material. Used for gunner turrents, pilot canopies and navigator astrodomes, acrylic plastic became standard equipment in every type of warplane, and Plexiglas, the trade name of the material's largest producer, Rohm & Haas Co., became a standard word in the industry's vocabulary.

With peacetime retrenchment of the airplane industry, Rohm & Haas began looking for new markets for their cast sheets of Plexiglas. The building industry was a logical place to look, for it is the major consumer of glass, acrylic plastic's closest relative from a functional standpoint. To do the actual looking, the manufacturers commissioned Dr. Walter Gropius of The Architects Collaborative, an up-coming group of Yale- and Harvard-trained designers. What they found is shown graphically on the following pages. Reproduced directly from the architects' report on the possible uses of Plexiglas in architecture, these plates not only demonstrate several advantageous applications of a comparatively new material in the fields of natural lighting, space division and display technique, but also illustrate a simple, yet forceful form of presentation which might well influence others.

Recommendations of The Architects Collaborative are based, first on characteristics of the material and, second, on trends in building design. Acrylic plastic has numerous advantages: 1) With a specific gravity of only 1.18, it weighs less than half as much as glass, is therefore easier to ship and handle. 2) With a strength comparable to spruce, it has an impact resistance much greater than glass, and, instead of shattering, it breaks into large, dull-edged pieces—important considerations from the standpoints of safety, wastage and maintenance. 3) Like wood or a soft metal, it is easily cut, notched and drilled — qualities which facilitate installation. 4) While its flexibility is an advantage under certain conditions, it may also be formed into rigid panels. 5) In addition to being 92 per cent transparent to light (comparable to fine optical glass), it also transmits beneficial ultra-violet rays which are filtered out by ordinary glass.

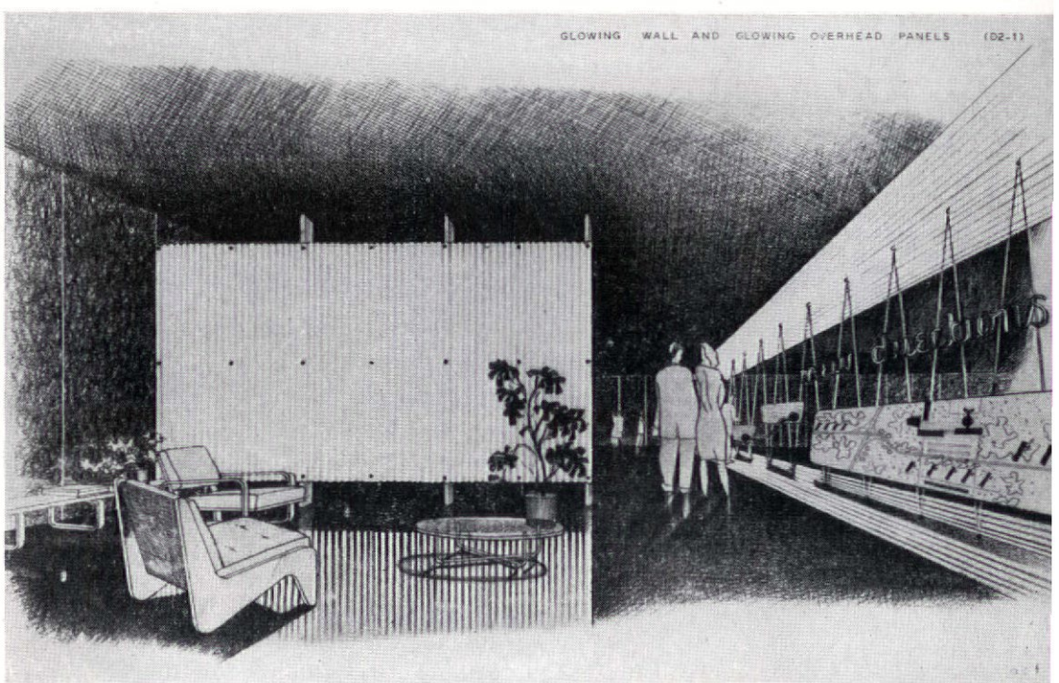
On the other side of the ledger are acrylic plastic's disadvantages: 1) Although a com-

(Continued on page 124)

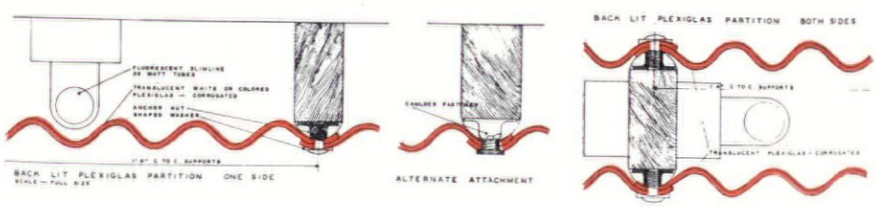


WAR proved the plastic's ruggedness

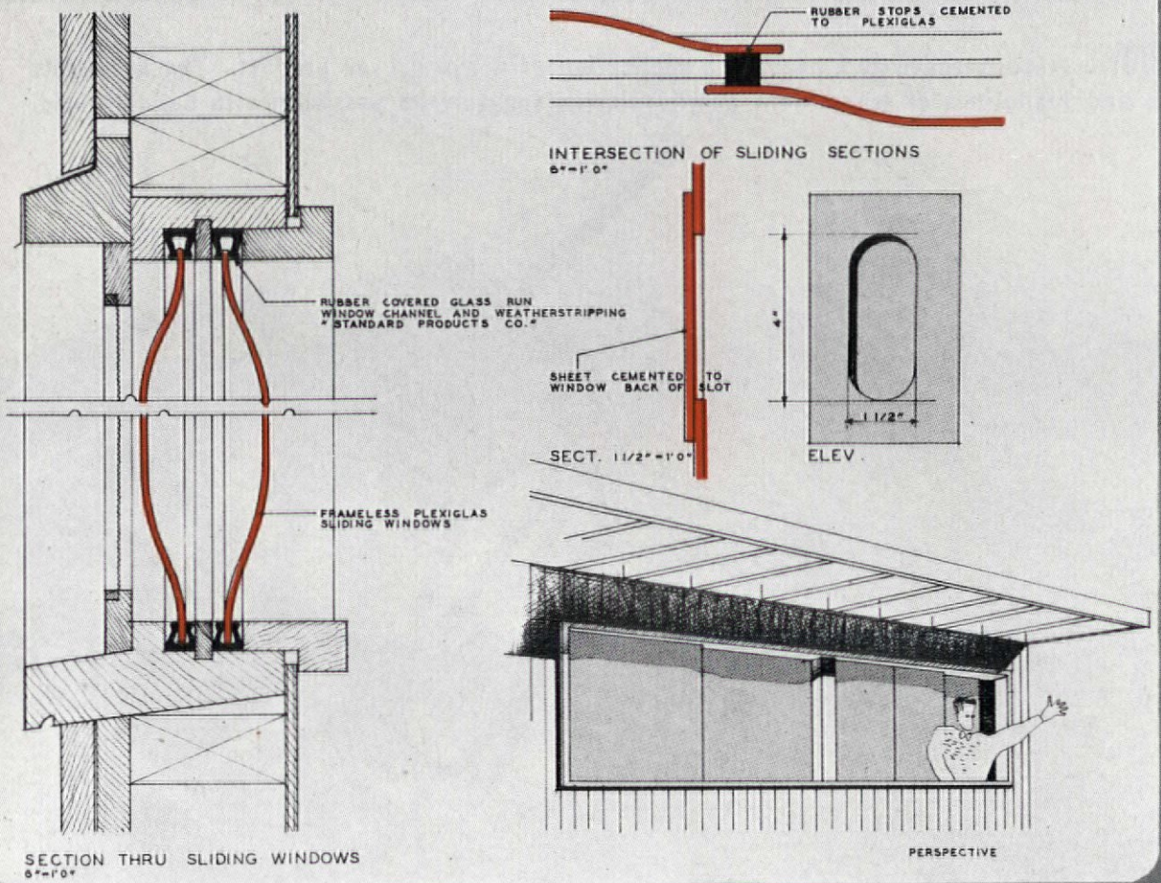
PEACE makes it available for architectural purposes



GLOWING PANELS are made of translucent white or colored Plexiglas, corrugated for rigidity and mounted on one or both sides of fluorescent lights. Panels are both decorative and functional.



SLIDING WINDOW



SLIDING WINDOW

DESCRIPTION Formed Plexiglas side sliding frame window

APPLICATION
- A. Residences
- B. Prefabricated units and trailers

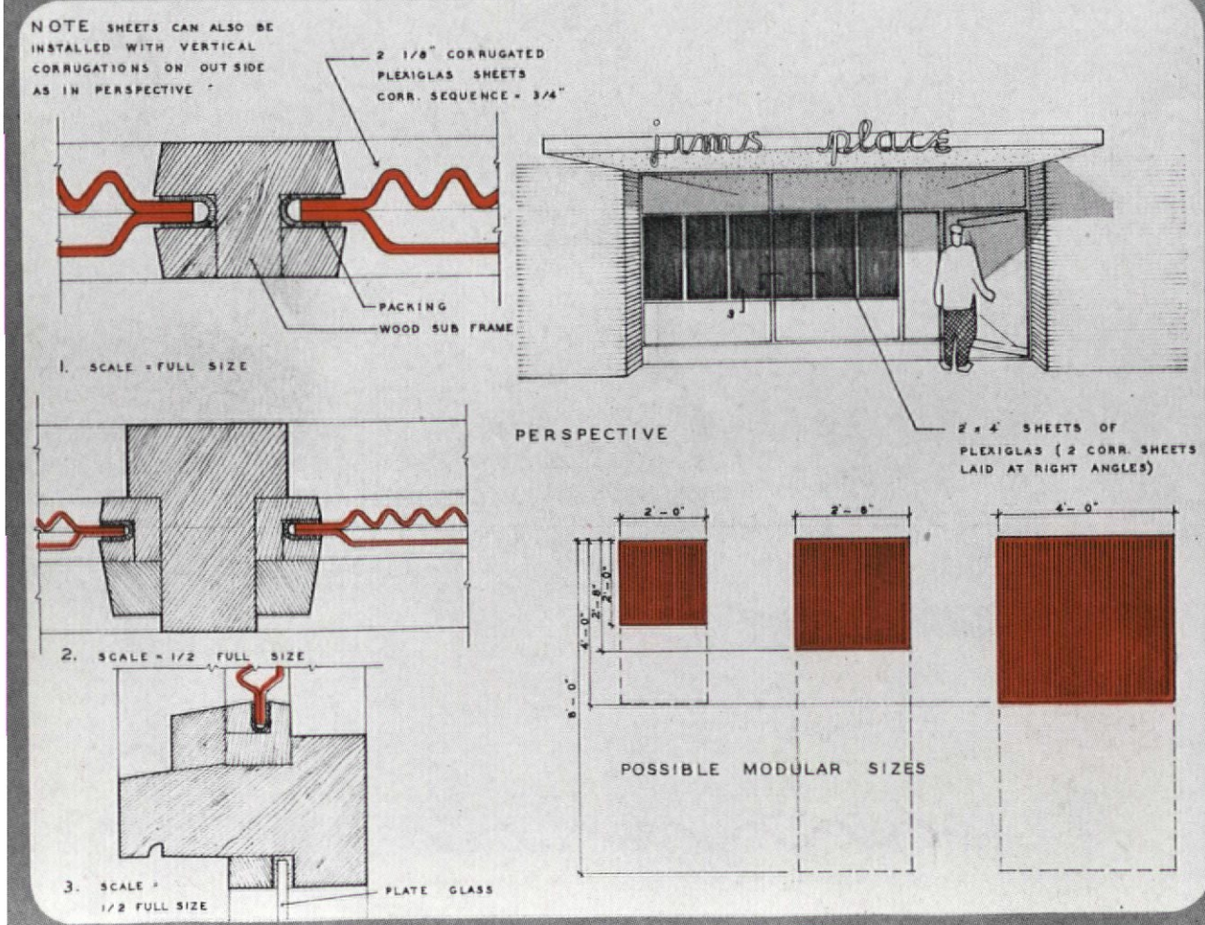
ARCHITECTURAL ADVANTAGE
- A. Good ventilation
- B. Easy operation

SPECIFIC ADVANTAGE
- A. Light weight
- B. Non breakable
- C. Ultra violet transmission

COMPETING MATERIALS
- A. Glass
- B. Safety Glass

SLIDING WINDOWS of frameless plastic are formed in molds to give panes rigidity. Rubber-covered channels set in casing and rubber stop cemented to plastic at intersection of sliding sections assure weathertight installation. Center detail shows how finger grip is made by cutting slot in window and cementing small rectangle of plastic behind it. Elimination of conventional window frame, simplification of casing and omission of all hardware at least partially offset the added cost of plastic over glass. Other advantages of this installation are listed in the tabulation above, excerpted from the report of The Architects Collaborative.

LIGHT TRANSMITTING AND INSULATING PANEL



LIGHT TRANSMITTING AND INSULATING PANEL

DESCRIPTION Two sheets of corrugated Plexiglas are joined together with the corrugations at 90° from each other, giving a rigid panel.

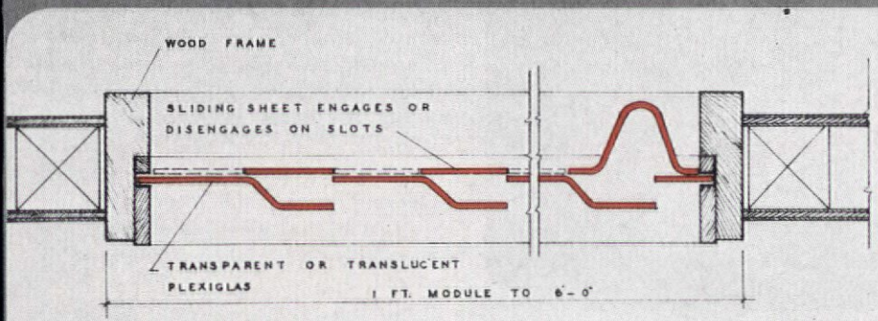
APPLICATION
- A. Residences
- B. Stores
- C. Offices
- D. Interior partitions

ARCHITECTURAL ADVANTAGE
- A. Light admission
- B. Weather resistance
- C. Good insulation
- D. Good rigidity

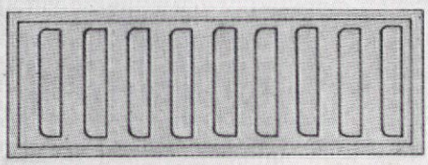
SPECIFIC ADVANTAGE
- A. Formability
- B. Weldability

DOUBLE PANELS of plastic sheets corrugated in opposing directions serve much the same lighting and insulation purposes as panels of glass block but eliminate most of the weight and labor connected with the latter. Jamb and sill sections show how panels are secured to framework with ample provision for the plastic's relatively large coefficient of expansion.

VENTILATING AND LIGHT TRANSMITTING PANELS



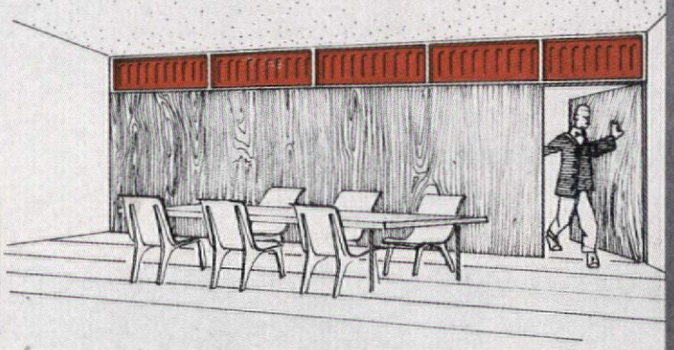
PLAN SCALE 1/2 FULL SIZE



ELEVATION SCALE $1\frac{1}{2}" = 1'-0"$
FROM FIXED PANEL SIDE



ELEVATION SCALE $1\frac{1}{2}" = 1'-0"$
FROM SLIDING PANEL SIDE SHOWN IN CLOSED POSITION



PERSPECTIVE
CONFERENCE ROOM SHOWING HIGH STRIP OF LOUVERS ALONG WALL

VENTILATING AND LIGHT TRANSMITTING PANEL

DESCRIPTION For interior rooms where light and ventilation are borrowed from an outside room. When ventilation is desired slide one panel over other until slots engage.

APPLICATION
- A. Offices
- B. Restaurants
- C. Hotels

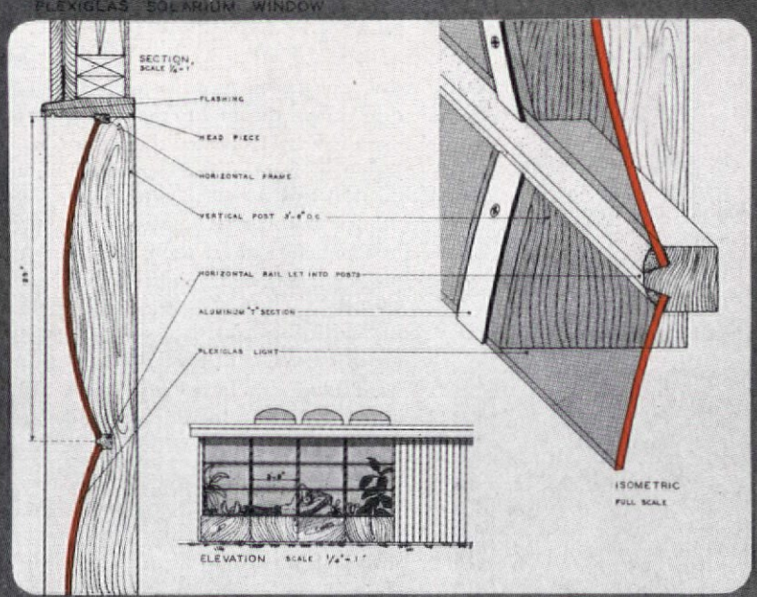
ARCHITECTURAL ADVANTAGE
- A. Ventilation with minimum amount of motion
- B. Good appearance
- C. Handsome colors

SPECIFIC ADVANTAGE
- A. Formability and machinability allow for one piece construction
- B. Lightness
- C. Light transmission

COMPETING MATERIALS
- A. Metal
- B. Glass

SLIDING TRANSOM designed to light and ventilate an interior room is made possible by the fact that plastic is easily formed and tooled. Two sheets comprise each panel. For ventilation, one sheet is moved until the ventilating perforations in both are aligned. In addition to its transparent and white translucent forms, the plastic is available in colors.

PLEXIGLAS SOLARIUM WINDOW



PLEXIGLAS SOLARIUM WINDOW

DESCRIPTION Flat sheets of Plexiglas mounted in special wooden frames. No forming of Plexiglas required.

APPLICATION
- A. Residences
- B. Schools
- C. Solariums

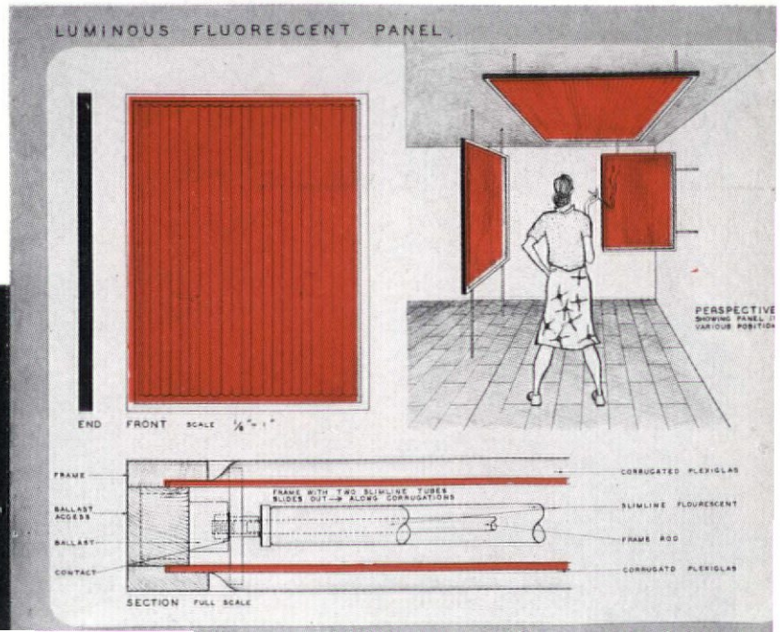
ARCHITECTURAL ADVANTAGE
- A. High percentage of light transmission
- B. Non breakable
- C. Easy to install

SPECIFIC ADVANTAGE
- A. Lets in ultra violet
- B. Light weight

COMPETING MATERIALS
- A. Ultra violet transmitting glass

SOLARIUM WINDOW is comprised of small lights of flat plastic formed into curves on the job for purposes of rigidity. Note simplicity of structural details and resultant ease of installation. Elevation sketch suggests use of plastic skylight domes to admit additional ultra-violet light.

LUMINOUS FLUORESCENT PANEL



LUMINOUS PANEL is comprised of two corrugated sheets of plastic set in wood frame with fluorescent fixtures between. In addition to their use as large lighting fixtures or sign backgrounds, such panels might be used to divide space in residences, stores or showrooms.

LUMINOUS FLUORESCENT PANEL

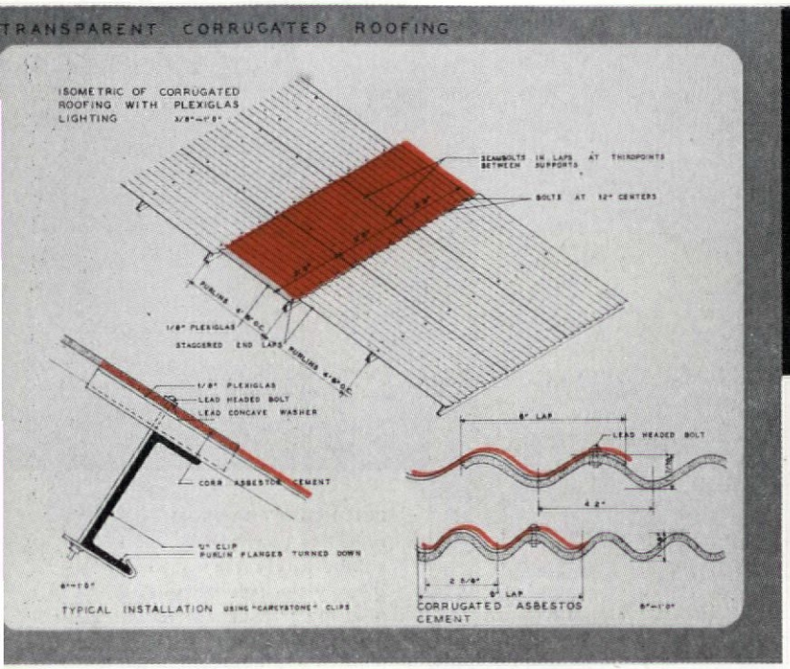
DESCRIPTION Corrugated sheets of Plexiglas set in wooden frame with fluorescent tubes between forming a movable panel.

APPLICATION
- A. Stores
- B. Residences
- C. Hotels
- D. Exhibitions

ARCHITECTURAL ADVANTAGE
- A. Provides decorative background
- B. Provides space definition
- C. Flexible, can be readily moved to new location
- D. Integral coloration

SPECIFIC ADVANTAGE
- A. Non breakable fixture
- B. Lightness
- C. Variety of colors

COMPETING MATERIALS
- A. Glass



TRANSPARENT CORRUGATED ROOFING

DESCRIPTION — Plexiglas corrugated to same amplitude and frequency as existing corrugated roofing materials is laid on roof in same way other material is mounted.

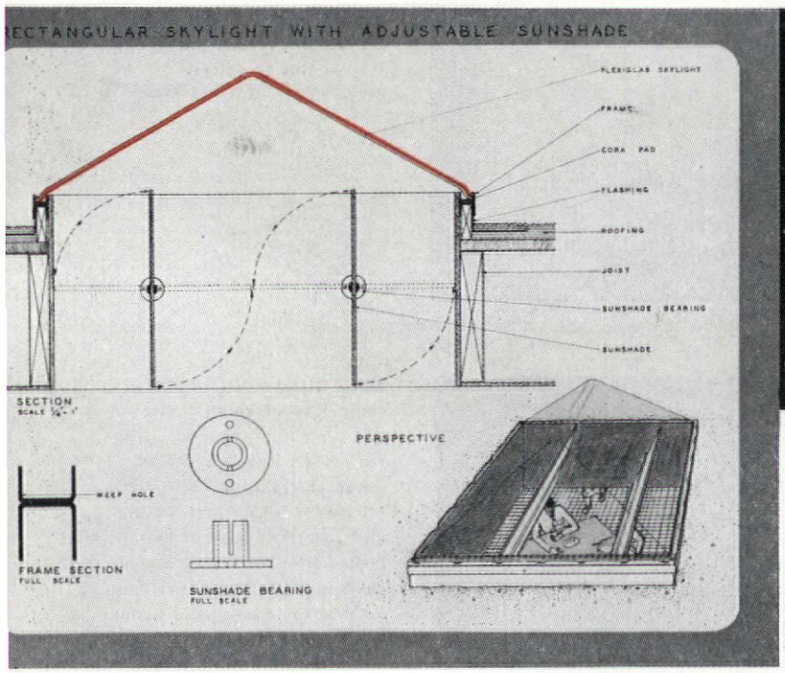
APPLICATION
- A. Factory buildings
- B. Farm buildings
- C. Warehouses, etc.

ARCHITECTURAL ADVANTAGE
- A. Overhead light admission
- B. Easy installation
- C. No special fittings

SPECIFIC ADVANTAGE
- A. Non breakable
- B. Light weight
- C. Formability allows simplified construction

COMPETING MATERIALS
- A. Wire glass

CORRUGATED SKYLIGHT of plastic may be easily built into corrugated cement asbestos roof of factory, warehouse or farm building. Plexiglas' lightweight, formability, high impact strength and transmission of ultra violet light make it particularly suitable for skylight construction.



RECTANGULAR SKYLIGHT WITH ADJUSTABLE SUNSHADE

DESCRIPTION — Rectangular Plexiglas skylight with wood or aluminum movable sunshades.

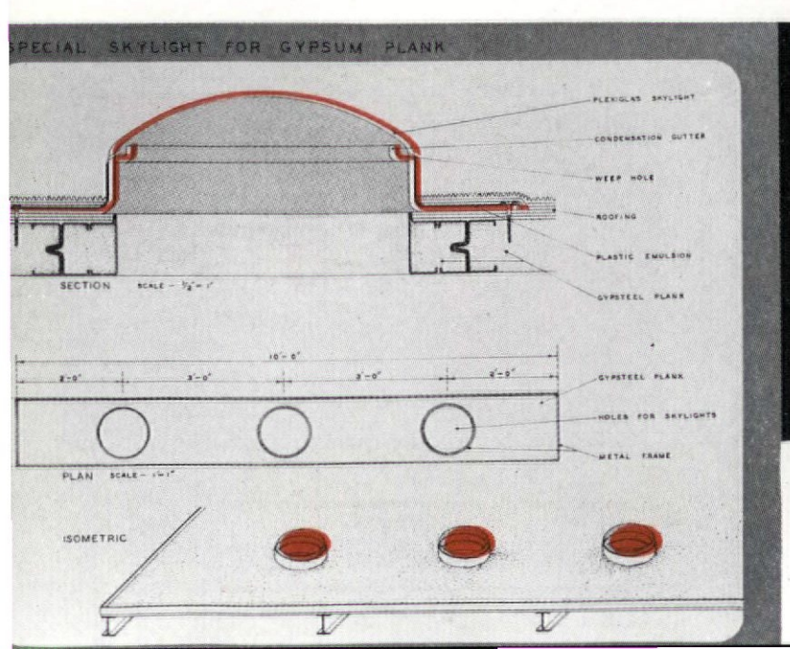
APPLICATION
- A. Apartment buildings
- B. Residences
- C. Small offices and stores
- D. Low buildings of many types

ARCHITECTURAL ADVANTAGE
- A. Light admission
- B. Sun control
- C. Easily installed
- D. Good appearance

SPECIFIC ADVANTAGE
- A. Ultra violet transmission
- B. Non breakable
- C. Formable

COMPETING MATERIALS
- A. Glass

TENT-SHAPED SKYLIGHT in one piece covers large opening without need for unsightly framework. Pitch of skylight renders it rigid and assures drainage of condensation into channels, which, in turn, are drained through weep-holes. Such an installation is particularly well suited to humid climates.



SPECIAL SKYLIGHT FOR GYPSUM PLANK

DESCRIPTION — Small round all Plexiglas skylight made to fit into a special gypsum plank.

APPLICATION
- A. Small offices and stores
- B. Schools
- C. Restaurants
- D. Libraries, etc.

ARCHITECTURAL ADVANTAGE
- A. Economical skylighting
- B. Good appearance
- C. Easy to install
- D. Eliminates all frame, curb flashing, etc.

SPECIFIC ADVANTAGE
- A. Ultra violet transmission
- B. Non breakable
- C. Light in weight
- D. Formability allows simplified construction

COMPETING MATERIALS
- A. Glass light
- B. Metal frame
- C. Copper flashing
- D. Wood or concrete curbing

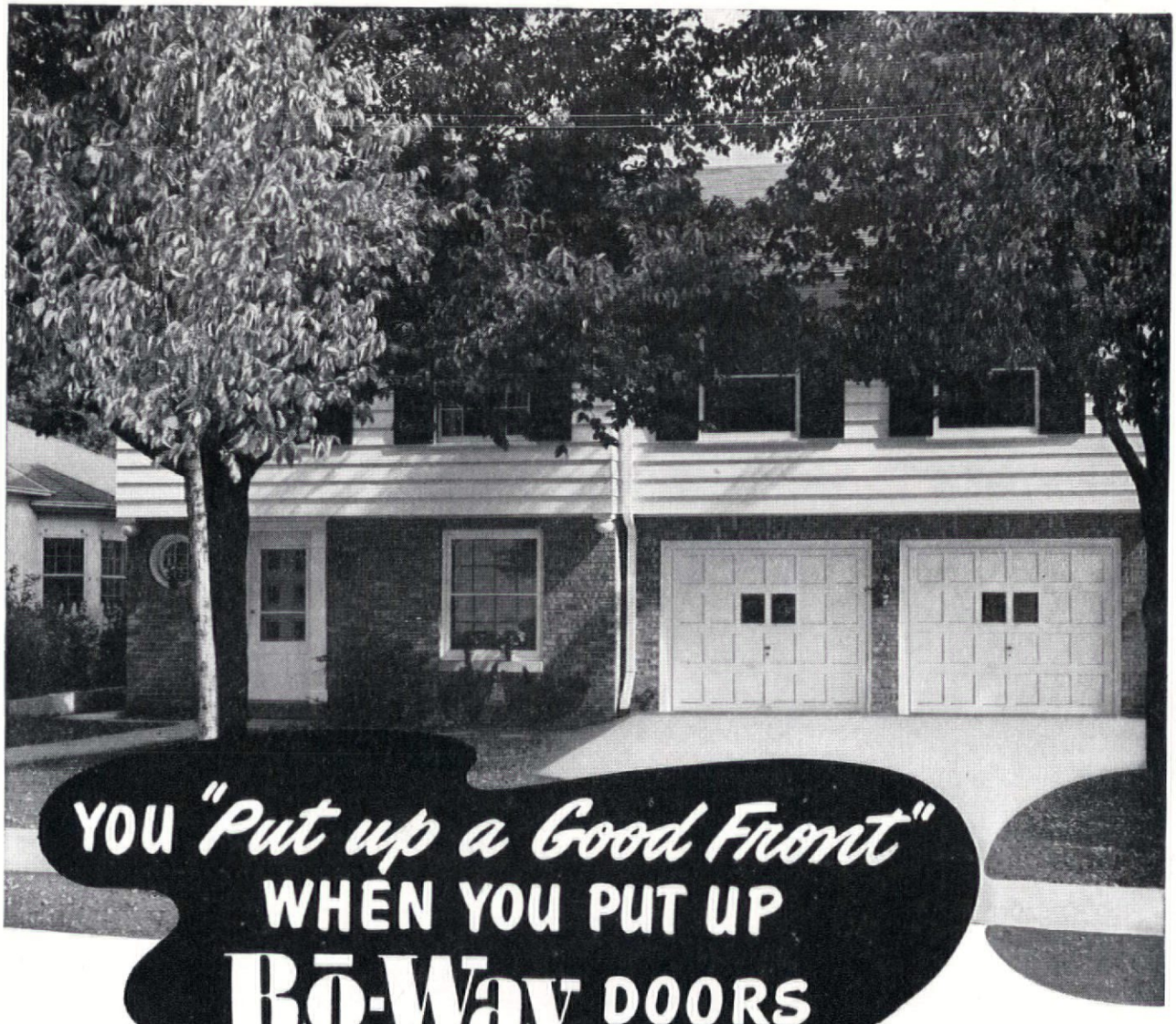
SMALL DOMED SKYLIGHTS, three to a gypsum plank, have integral flashing. Skylight diameter is only 1 ft.

paratively hard material, its surfaces is only as hard as copper, is therefore easily scratched. 2) While no fire resistance rating has been assigned to the material, it is known to become soft and pliable at 220 degrees F. and to burn in much the same manner as asphalt shingles. 3) Its coefficient of expansion is about ten times that of glass. 4) Offering considerable comfort to the well-established glass industry, the new competitive material costs considerably more than glass.

Mindful of the material's numerous limitations, The Architects Collaborative offers recommendations to overcome them. It suggests that Plexiglas be "frosted" or corrugated where scratching would mar the natural beauty of a clear flat sheet. With deference to its burning qualities, the report warns that use of the material must be limited to non-fireproof structures and, in fireproof and semi-fireproof structures, to temporary movable partitions and to windows which are set back 8 to 10 ft. from the property line (at least until the manufacturer adds a fireproofing ingredient which would put Plexiglas on an equal footing with glass as far as building codes are concerned). To take care of expansion and contraction, architects specifying large sheets of the material must make ample provision in their detail drawings for movement of the material. Finally, to reduce costs it is recommended that the manufacturer simplify production standards (e.g., eliminate tests for optical perfection) and standardize sheet sizes on the basis of a 4 in. module. Today the sheets are supplied to fabricators in many sizes ranging from 6 x 12 in. to 67 x 85 in.

Viewed by The Architects Collaborative, the design trend in most building types opens the door to the architectural use of acrylic plastic. This is particularly true in residential, commercial, industrial and school buildings whose designers are paying increasing attention to adequate natural light, the health of the occupants and the division of space with lightweight, light-transmitting partitions. Stores and display room designers will also find that the Plexiglas lends itself admirably to modern selling techniques, efficient lighting methods and attractive showmanship.

Although not covered in the accompanying illustrations, prefabrication is seen as a big potential outlet for cast sheets of acrylic plastic. The qualities of the material should help prefabricators reduce the material bulk and shipping weight of their house parts and simplify their on-site assembly. Therefore, The Architects Collaborative recommends that Rohm & Haas exploit this field with particular attention to those prefabricators who are developing interchangeable machine-made parts for houses of any size or design.



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Smart good looks—just run your eye over those simple clean lines that blend so well with any style of architecture.

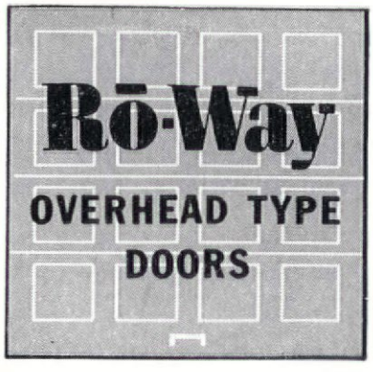
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Here is the new *Mutual-Don Lee Broadcasting System* Building soon to be completed in Hollywood. *77%* of the decision-making officers and directors of the two networks represented in this building are subscribers to TIME. Their subscription numbers are: 1-50-ZK; 1-50-1D-051-790; 1-50-CG-079-855; 12-75-ZH512-978; 14-10-ZH1367-948; 1-35; 9-10-ZH1517-843; 5-10-ZR; 12-42-PC-928; 1-50-ZGB-29; 1-50-CH-553-946; 14-30-ANH521; 9-30-RS-50-300; 124-WPWJ-450; 1-50-EMA295-52; 15-10-JW136-50; 12-CC134-22; 22-TSL151-48; 18-LAW-122; 15-AMQ151-20.



Not one, but *two* companies, two separate groups of officials, had to be sold on the design and details of this new Hollywood building. And even when you're calling on *one* company, you need many different OK's to get your materials and equipment written into its building plans.

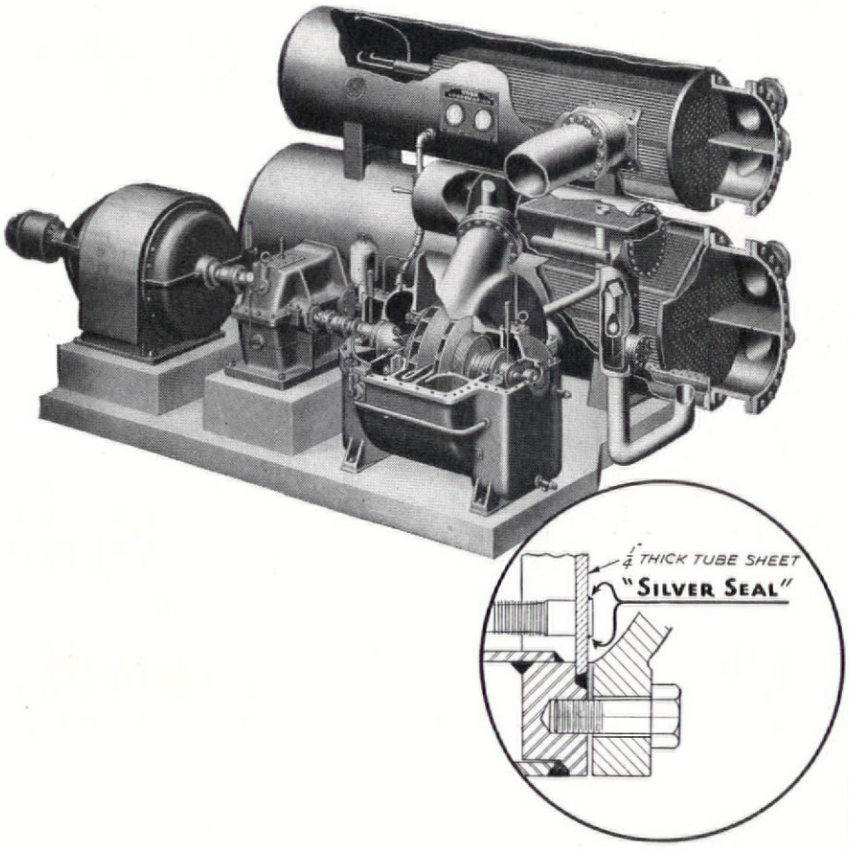
Industry today is too complex for one man to make a final decision before he has the approval of many associates and advisers. And so it is more important than ever before to get your product known and respected by *many* influential men in many industries—men like the more than 650,000 executives who read TIME.

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HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885



The Sparkler W-8 water filter (illustrated) is new in the plumbing field for home use, but is a time tested proven product used successfully for years in industry for filtering and purifying water. Sparkler filters are built of cast bronze with a rugged strength that insures continuous efficient operation; are water tight under pressures in excess of 75 lbs.



Simple construction; easy to change filter pad.

Sparkler filters completely remove all chlorine and other off-tastes and odors, all sediment, color, pipe rust, algae, etc., and deliver clear, sparkling pure water for drinking and cooking.

Sparkler filters are easily installed by tapping the cold water line at the kitchen or utility sink and deliver pure water through an auxiliary faucet. With this in-line installation only the water used for drinking and cooking is filtered, insuring a longer period between renewal of the filter element. Sparkler filter pads are easily renewed by loosening several wing nuts and replacing with a new inexpensive pad; for average family a filter pad will last from four to six weeks.

Model	Filter Area in Sq. in.	Capacity GPH	Height	Diam.	Shpg. Wt.
W-8	100	60	6"	9"	20 lbs.
SPA	7	20	3"	4"	3½ lbs.

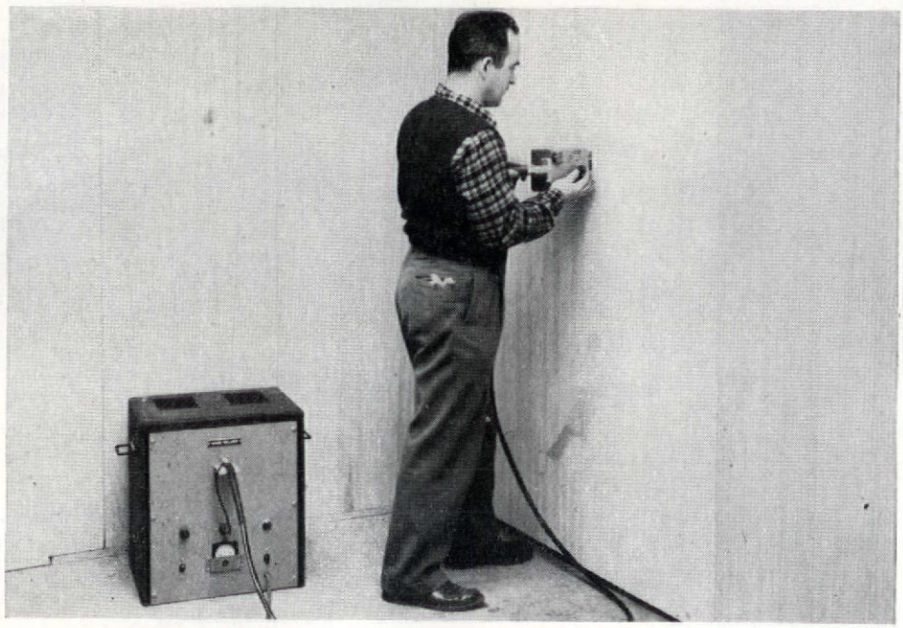
Construction: Solid Bronze; SPA is chromium-plated. Filter Media: Low cost preformed pads.

Larger size filters with capacities up to 10,000 gal. per hr. are available for institutions, hospitals, or commercial requirements.

Write **for special file bulletin on home water filtration. Gives complete information.**

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HIGH-FREQUENCY WOODWELDING speeds construction, helps reduce costs.

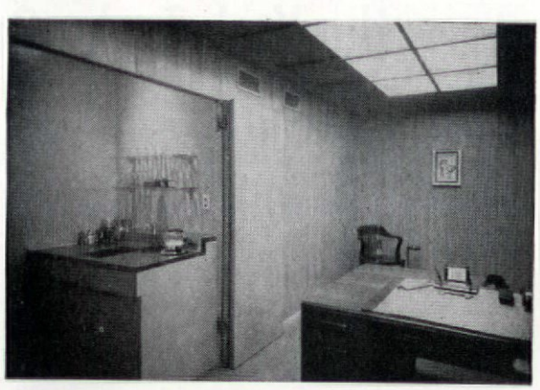


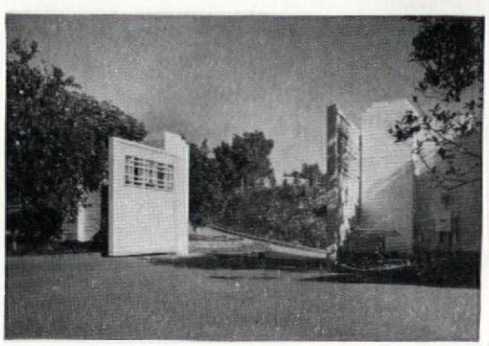


High-frequency woodwelding is one of the latest warborn developments to successfully invade the building field—in factory and on the site. Typical of the equipment used for site application is the Woodwelder by Woodwelding, Inc., Burbank, Calif. Lightweight, it consists of a small hand gun that works off a 1 kw generator supplying high-frequency current. Electrodes of the gun set up intense frictional heat in the glue on the back of the paneling to instantly bond it to existing plaster walls.

Parquet floors can be easily laid on sub-flooring of new buildings or on existing finished floors without the use of nails. Individual parquet units are completely welded or cured in less than a minute.

Wood paneling was welded directly to plaster on one wall of this office and to studs on the other walls with the Woodwelder. Door slabs were also fabricated with high frequency equipment by Deats Sash & Door Co. of Los Angeles.





Wooden motorized gates were assembled without nails or screws. Waterproof plywood panels, 5 ft. 3 in. wide, 6 ft. 6 in. high, ½ in. thick were bonded to an interior wooden framework with American Cyanamid's Urac 185 and cured with high frequency woodwelding equipment. Glue points were spot-welded to hold the panels in place during assembly. Later the entire glue lines of the gates were cured. Openings were cut in upper part of the plywood panels for grillework.



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IN OFFICE BUILDING, APARTMENT, AND HOSPITAL installations, General Electric Personal Weather Control offers an adaptable system to suit tenant and owner needs.



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PERSONAL WEATHER CONTROL

(and new equipment, too)

IT'S A LOT EASIER now for an architect to design a personal weather control system for a multi-room building. Gone is the need for "fitting the building to the air conditioning system." General Electric has developed basic equipment units adaptable to widely varying requirements.

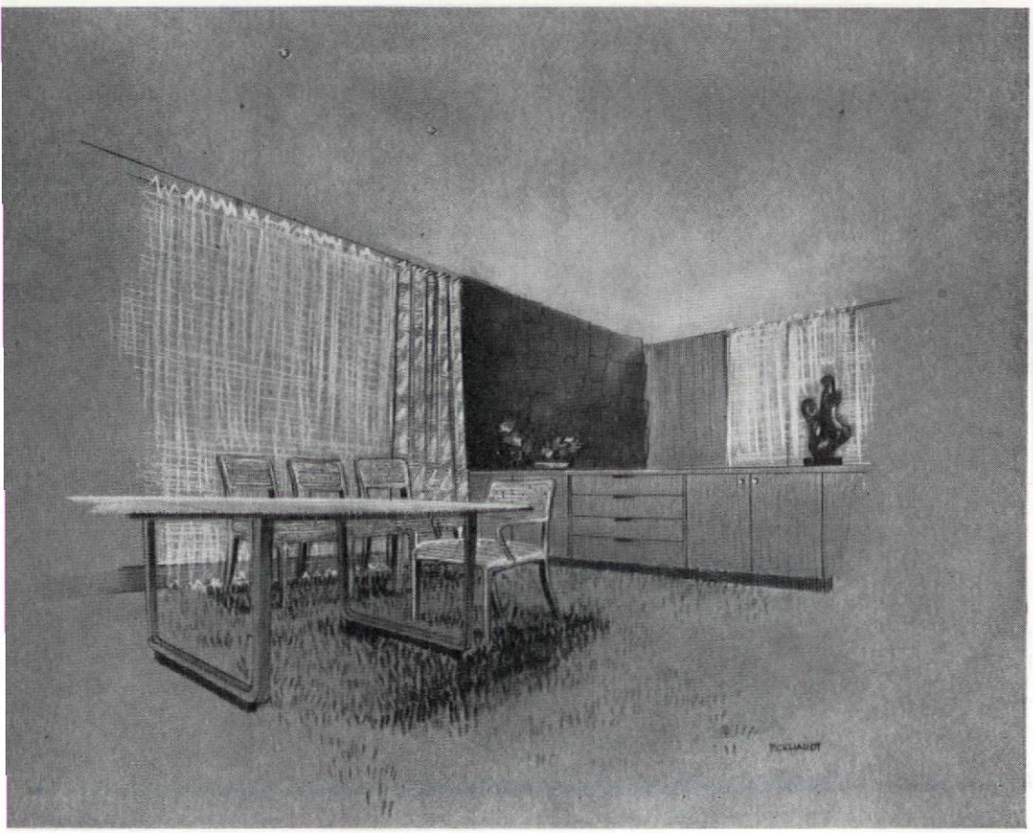
The General Electric central plant room air conditioner is a versatile element which architects and engineers can use for designing a practical air conditioning system. Clients, too, will be happy at the resulting economic balance between installation and operating expenses . . . which makes for low owning costs.

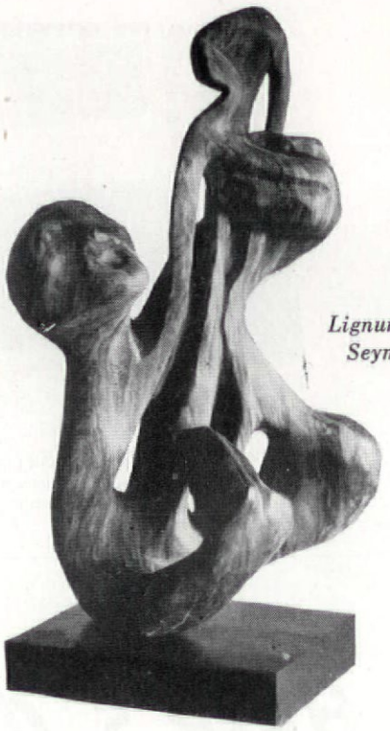
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REVIEWS



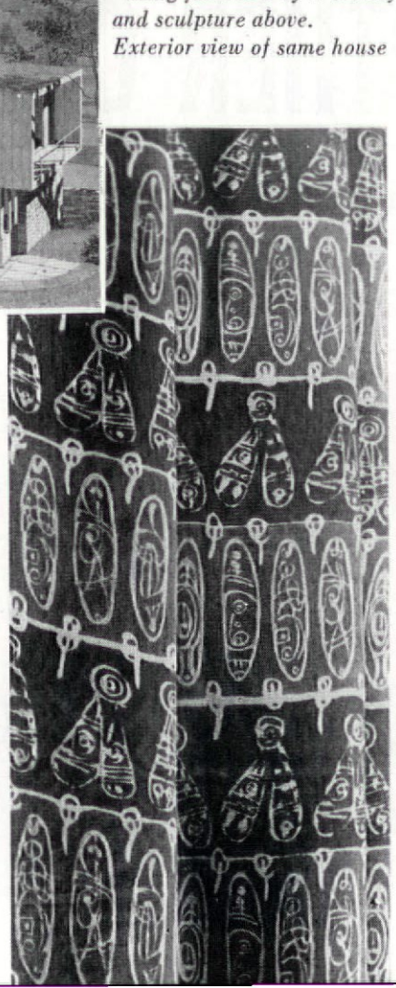


Folk-song
Lignum vitae, 22"
Seymour Lipton

EXHIBITION



Dining room of house
by Reisner & Urbahn
using furniture by Wormley
and sculpture above.
Exterior view of same house



Printed textile designed
by Henry Moore used
in the game room of
the Reisner & Urbahn house

Despite fiery editorials and long-winded after dinner speeches calling for closer integration of architecture and its sister arts and crafts, few concrete attempts are made to realize this aim —particularly on projects brought before the public eye. Except for a handful of earnest individuals and those made temporarily earnest by the requirements of architectural competitions, etc., professionals of each field tend to drift along in a state of blissful introspection. Subject to most criticism for their single-mindedness are the interior decorators. Belying this reputation is the current exhibition, "The Modern House Comes to Life," at the Bertha Schaefer Gallery in New York. It incorporates architecture, interior decorating, painting, sculpture, lighting, furniture and textile design. After selecting one house designed by each of the architectural firms of Elder, Raymond & Breck; Reisner and Urbahn; Jackson & Callender; and Edward D. Stone Associates, Miss Schaefer combed the work of prominent artists in allied fields, incorporated it into four completely appointed houses decorated by herself, two of which are shown in minutely accurate scale models, two in excellent colored perspectives of the principal rooms. The exhibit also introduces a new angle by showing the textiles and life-size originals of furniture, sculpture and paintings alongside the miniature rooms.

Miss Schaefer, who has, in the last few years, acquired quite a name as a patron of contemporary art, utilizes tiny reproductions of actual canvasses and compositions by outstanding painters and sculptors in the models, miniature pottery by Fred Farr. As a single-handed attempt by a decorator working in the limited space of her own showroom, the exhibition bespeaks sincerity and hard work on the part of its originator in contributing to a closer working basis among the artists and craftsmen, whose collective work can produce a successful effect only if it is capably coordinated.

(Continued on page 134)

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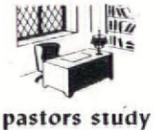
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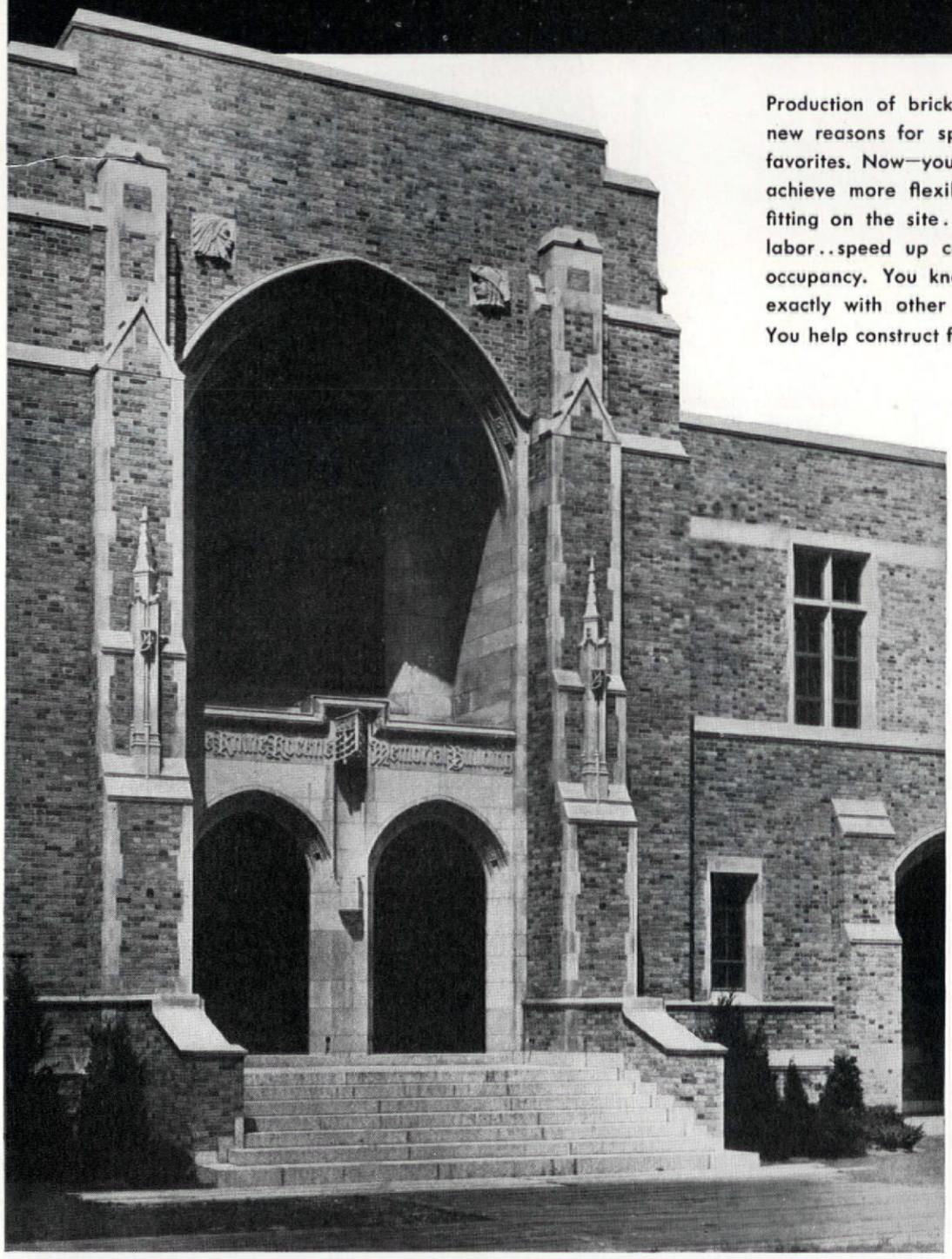
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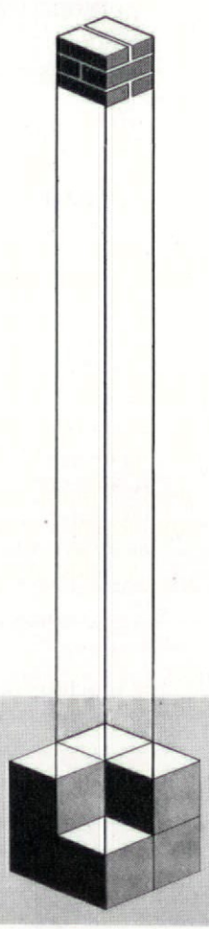
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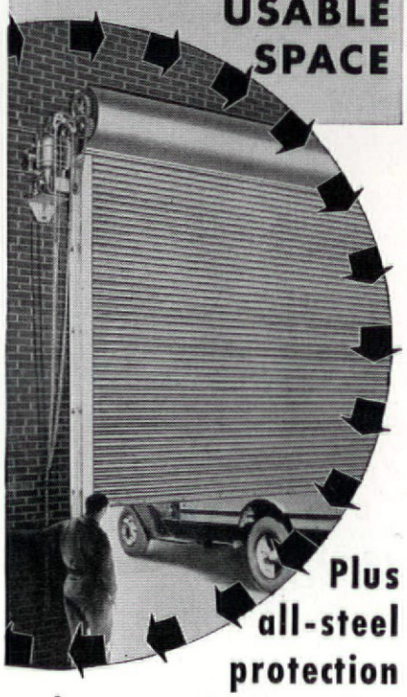
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BOOKS



PATRICK GEDDES IN INDIA. Edited by Jacqueline Tyrwhitt in cooperation with H. V. Lanchester and Arthur Geddes. Introduction by Lewis Mumford. Percy Lund Humphries & Co., Ltd., London, England. 101 pp. Illustrated. 5½ x 9. 10/.

It is quite possible that, in the zeal of their devotion, the followers of Patrick Geddes, notably Philip Boardman and Lewis Mumford in their respective roles of biographer and self-appointed press agent, have better succeeded in confusing than familiarizing the public with the man and his thinking processes. At any rate, it is gratifying to find some first-hand prose and an opportunity for individual evaluation, thoroughly edited though the text may be. This, according to the editor's note, was necessitated by the fact that "Patrick Geddes wrote as he thought and the actual wording of many passages could only be understood with difficulty, especially when they had been uprooted from the context . . . but [his] picturesque style has not been wilfully altered."

Despite the equity of Boardman's biography (FORUM, Nov., '44), which remains the most thorough and informative work on Geddes yet turned out, it failed to bring into sufficient relief his swift observation and penetrating thought on specific planning problems. Fortunately, the Indian reports deal exclusively with this facet. As Mumford points out in the introduction: "Patrick Geddes' thought had two sides to it. One aspect was systematic and rigorous to an extraordinary degree, it was based upon a cartography of life, mind and society which he had created to facilitate his own thinking, so that his ideas would be related in space, time and function to the concrete situation from which they were momentarily abstracted. . . . Some of Geddes' diagrams, like that which correlates folk, work and place with organism, function and environment, are fundamental ones, others, which he sometimes took to be equally fundamental are, perhaps, of a more personal order and less capable of general application. But this side of his work requires special study and discriminating use . . . Very soundly, the present selection emphasizes the other side. . ."

For one whose philosophy is exclusively a second-hand commodity, as far as the current generation goes, Geddes' name carries extraordinary weight in certain planning circles, thanks to the tireless efforts of a handful of disciples. Un-

(Continued on page 138)

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of this...



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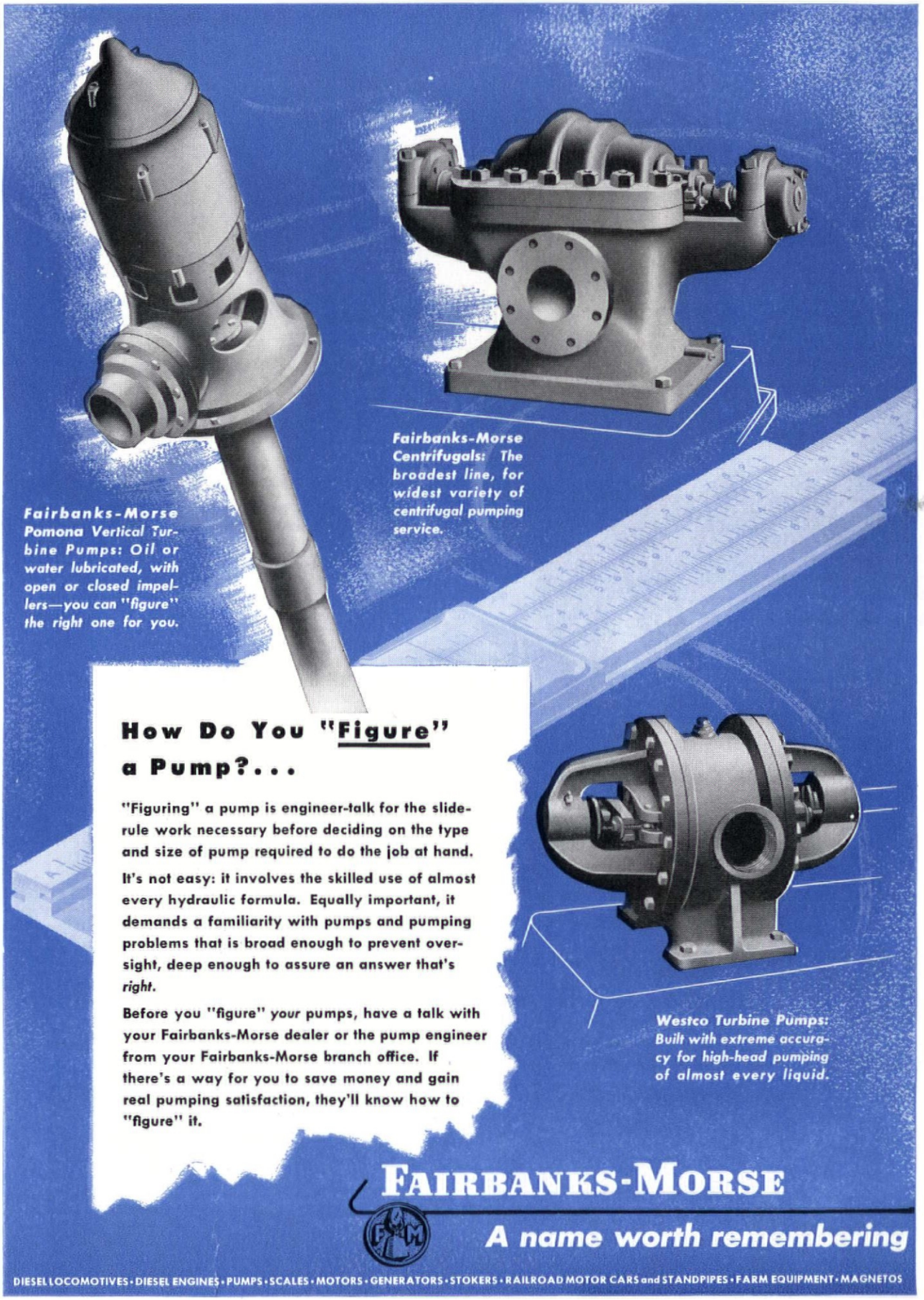
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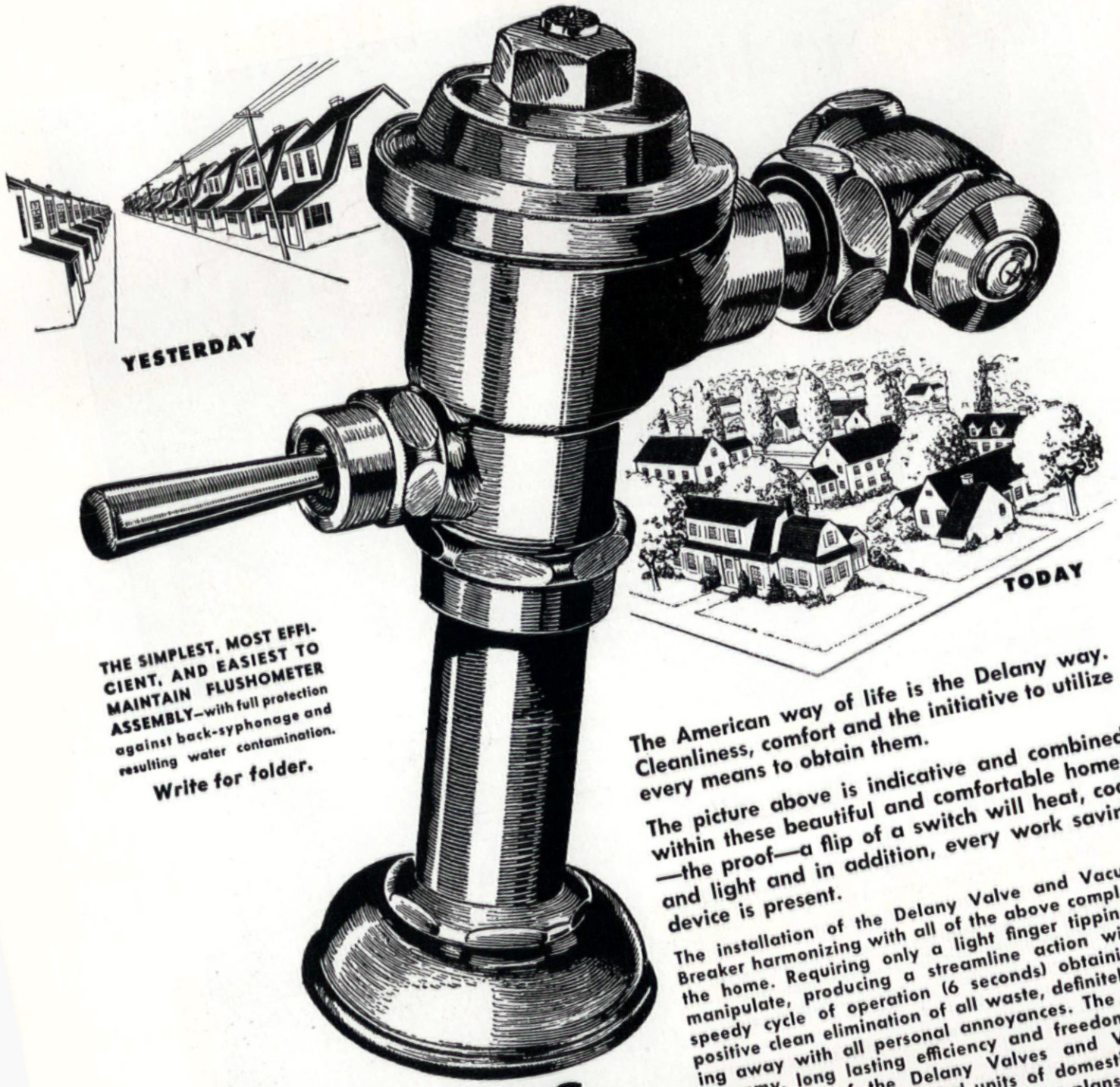
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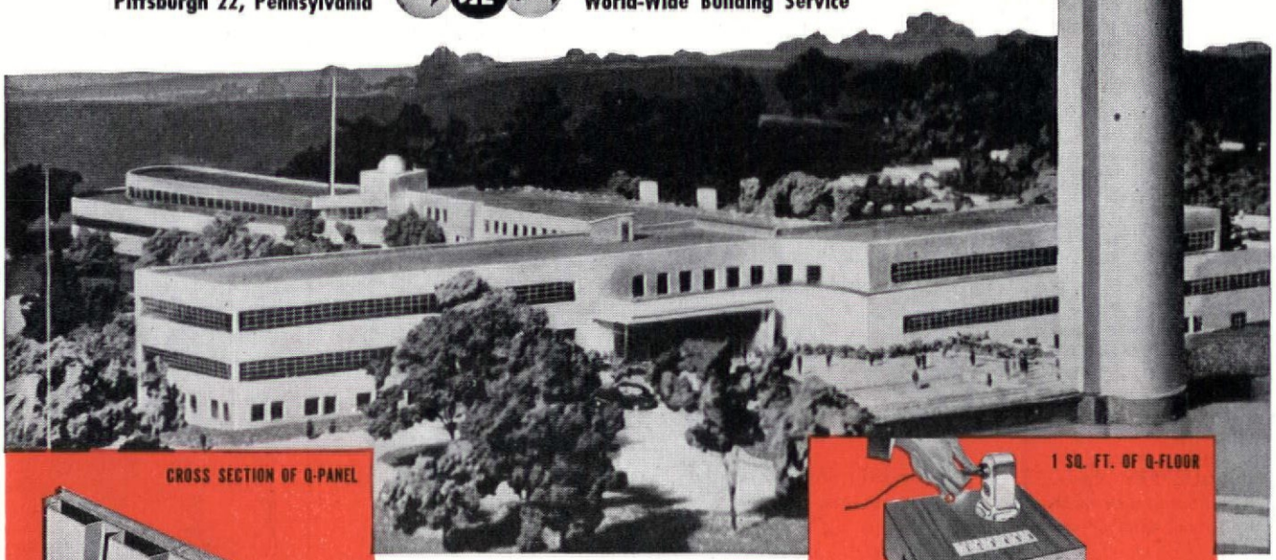
Q-FLOORS are structural subfloors of steel cells crossed over by headers carrying the wires for telephone, power and every kind of electrical service. Every six-inch area of the entire floor can be tapped in a matter of minutes for an outlet. No trenches. You save an enormous amount of drafting room expense because partitions and outlets can be located after the tenant moves in and can be changed electrically any number of times over the years with practically no trouble. Q-Floor with suspended ceiling weighs less than forty pounds per sq. ft., has four-hour fire rating.

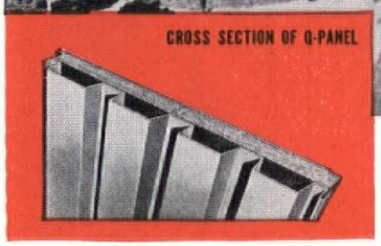
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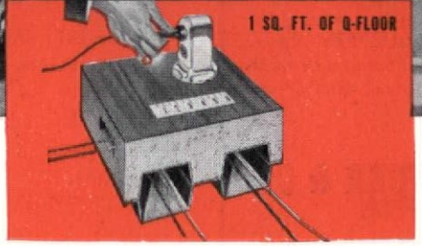
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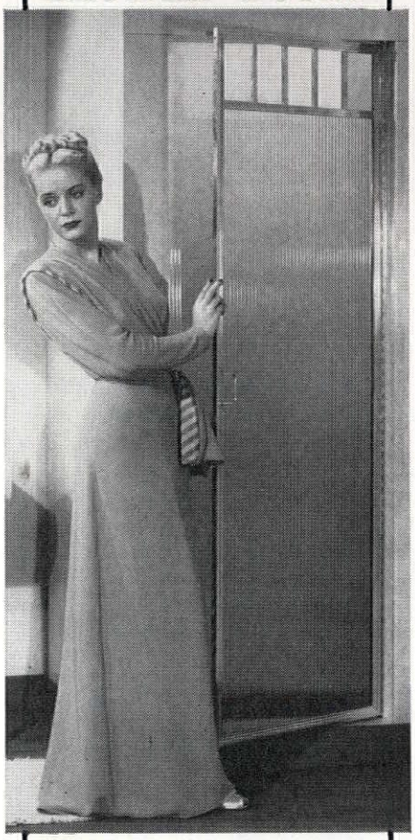




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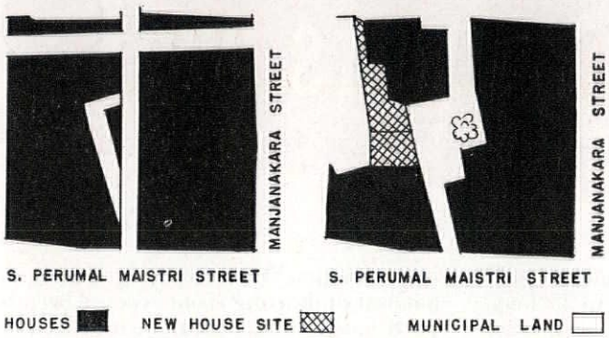
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deniably, he was years ahead of his time, but it takes a series of specific studies like these to drive home the full impact of his pioneer thinking at work. While many of the problems that confronted him in India from 1915 to 1917 may seem professionally antiquated today, his method were those of the contemporary regional planner. Chiefly, he had to combat an official penchant for cleaning up cities by superimposing a grid pattern of thoroughfares on an organically developed urban pattern—at a time when housing was as scarce and substandard as it is today.



Perhaps the greatest lesson to be learned from this small volume is the value of flexible thinking and an open mind in regional and city planning. Geddes adheres to no pat formulae, recommends no set methods of procedure other than an exhaustive diagnosis followed by "conservative surgery." To preserve existing cultures and living patterns but to equip them for the demands of a newer, less isolated civilization is Geddes' task. The importance he attributed to the humaritarian and sociological aspects of planning can be seen in his words: "Even in European cities, but far more obviously in Indian ones, the townsfolk are still very largely villagers. They are not really at home in the street. Their true meeting ground—both for the children and the elders—is the village squares . . . makes up village centers that are second to none that I know of—either in the west or east.

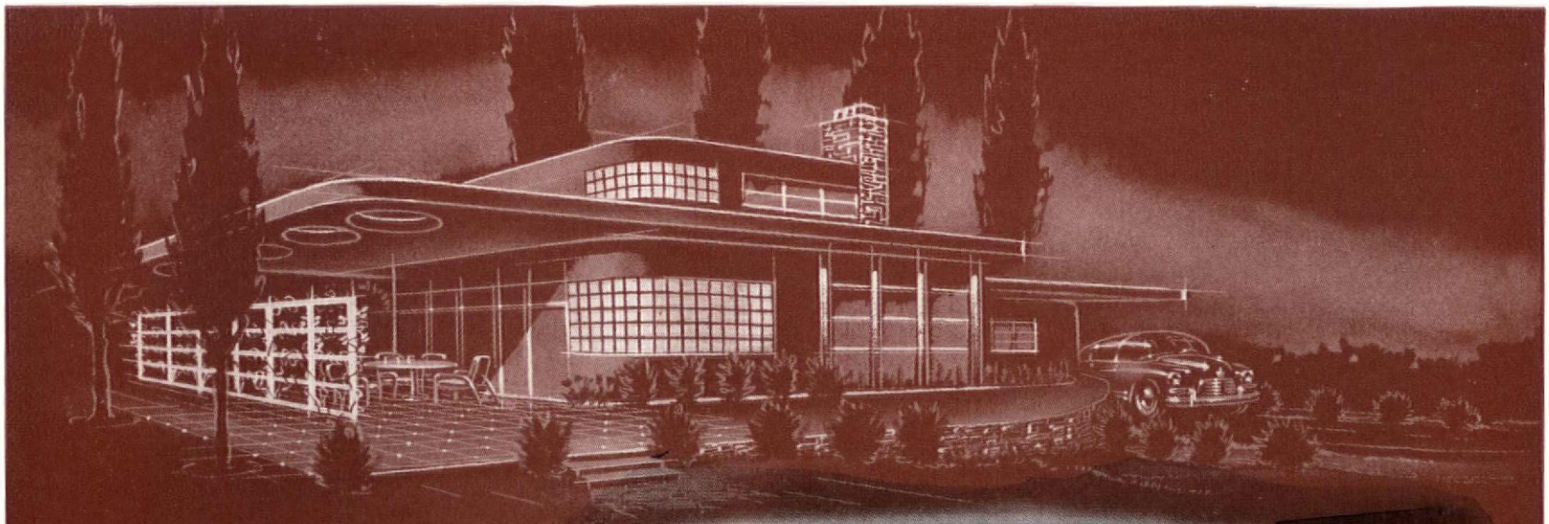
"If we plan within the town, keeping this village life fully in view, we shall diminish that deterioration of the villager, main cause of the decline and degeneration of life everywhere.

"The nineteenth century industrial order sought a good location for its industrial undertakings in terms of situation and communications. It then confused and deteriorated these advantages into the planless muddle of industrial Glasgow or Bombay, of Calcutta or London's East End. Depression and deterioration of both the worker and his work and also of the management increased, as the good situation they had started became wasted and spoilt. . . Yet there must be no mere sentimental renewals of village customs now obsolete, or of artistic embellishments now outworn. Such only discourage the renewal of the village at its best—and in Europe they have sometimes done so. The problem is how to accomplish this return to the health of village life, with its beauty of surroundings and its contact with nature, upon a new spiral turning beyond the old one which . . . frankly and fully incorporates the best advantages of town life."

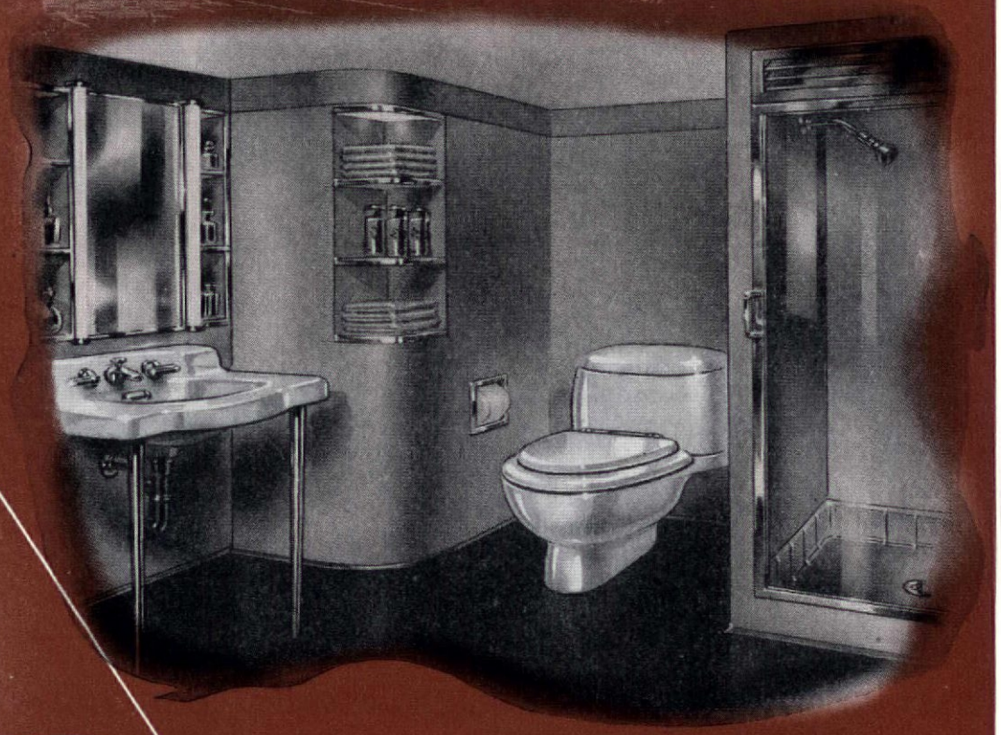
While no tricks of the trade can be borrowed from this book by today's planners in this era of specialization and over-specialization a copy close at hand for frequent rescanning is recommended—just to keep relativity in proper focus. And if this review does not serve to put across the import of Patrick Geddes' work in India perhaps the willingness of H. H. The Maharajah of Indore to make the publication financially possible will convince the Thomases.—M.S.

(Continued on page 142)





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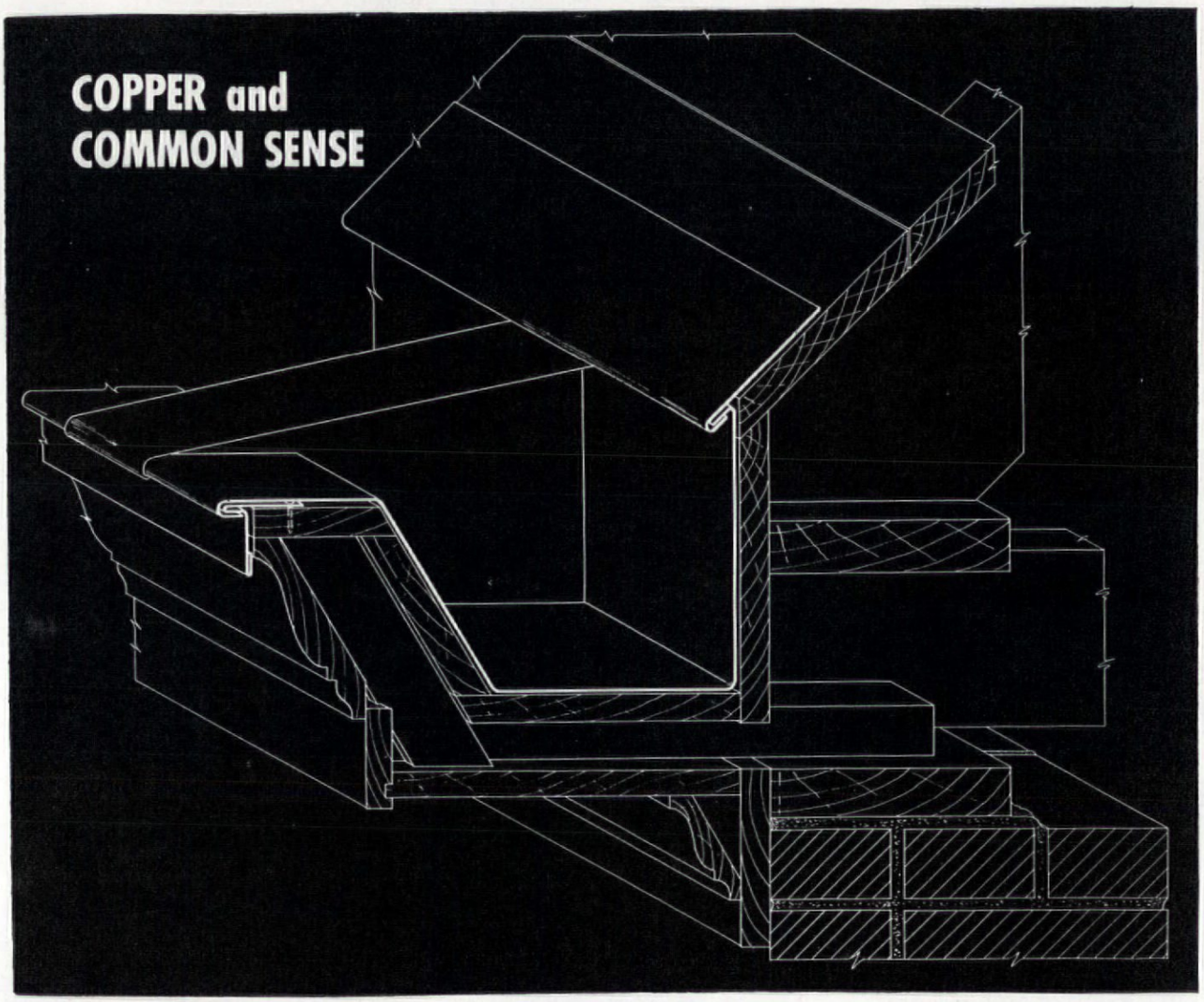


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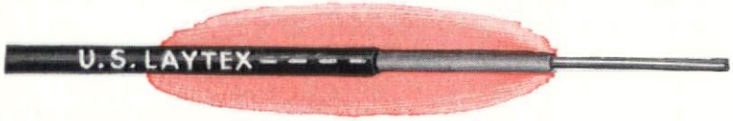
They said it couldn't be done!

Quite a few people didn't believe a natural rubber-covered building wire could have the smallest diameter in the business and *at the same time* have no equal in physical and electrical properties.

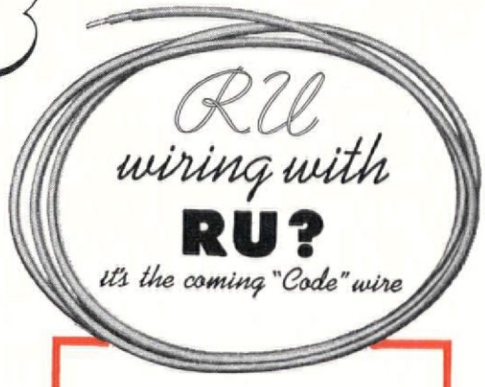
But that was before U. S. Rubber Company scientists produced Laytex (Type RU). Today, Laytex is the wire man's delight. Its small diameter permits more circuits per conduit. By means of a special dip process, Laytex is insulated with 90% unmilled grainless natural rubber. The conductors are perfectly centered in this insulation, thereby avoiding any chance of thin spots.

Laytex (Type RU) is lighter in weight, easier to install. The saturated cotton fibrous cover is flame-retardant and moisture-resistant.

UNITED STATES RUBBER COMPANY
1230 Avenue of the Americas • Rockefeller Center • New York 20, N. Y.



Specify RU **Laytex*** **ELECTRICAL WIRES AND CABLES**



SAFETY FACTORS THAT PUT *RU* OUT IN FRONT



BULL'S EYE
The conductor is on dead center throughout every inch of the wire.



ELEPHANT INSULATION
Laminated walls of tough natural rubber insulation mean Laytex is safe.



SMALLER O.D.
Allows more circuits per conduit than in ordinary wire. Lighter weight.

*Reg. U. S. Pat. Off.



Eagle RTU is *pure white lead.* It has all the famed durability, beauty and economy of this most famous of painting materials.

And, Eagle RTU comes factory-mixed for perfect brushing consistency. It goes to the job in the original container, all set to open, stir and apply.

Eagle RTU spreads smoothly and easily. It covers completely, leaving no ridges or brush-marks, has real white lead hiding and staying power.

And, Eagle RTU makes a smooth, gleaming elastic coat that won't crack or scale . . . defies time and weather, ages evenly by gradual chalking.

Eagle RTU is favored by builders for its time and labor saving convenience...and because it enables them to do a *better* job more efficiently.

And, Eagle RTU is preferred by homeowners because of its beauty and durability...because of its *whiter* white that stays white *longer.*

Eagle RTU is white lead paint in a *modern* form.

And, Eagle RTU is backed by Eagle-Picher's 104-year-old reputation, as well as by the 2000-year-old reputation of white lead.

EAGLE PURE WHITE LEAD *Paint*

EAGLE EP PICHER Since 1843

THE EAGLE-PICHER COMPANY
CINCINNATI (1), OHIO
Member of the Lead Industries Association

REVIEWS

Starting with this issue, the Reviews section will list from time to time old and new foreign architectural journals again available to subscribers in the U. S.

ARKKITEHTI. *Julkaisija/Suomen Arkketehtiliitto,* Helsinki, Finland. An interesting bi-monthly with each issue devoted to a specific phase of architecture or planning. Includes a minimum of English footnotes.

FORUM. Published by G. Van Saane, Prinsengracht 676, Amsterdam, Holland. Monthly printed in Flemish only, fairly limited in coverage but including editorials on sculpture, ceramics, etc. Yearly subscription: f20.

BYGGEKUNST. *Norske Arkitekters Tidsskrift.* Published by Johs. Gronseth & Co., Postboks 185, Oslo, Norway. A bi-monthly printed in Norwegian. Excellent coverage of the national architectural picture.

DOMUS. via Monte de Pieta 15, Milan, Italy. A really top-flight international monthly covering art, architecture and decorating. A must for all who can afford its annual subscription rate of $20 for the three subjects. Rate for architecture only (3 issues) $6.50. Published in Italian with French and English text translations.

LA CONSTRUCTION MODERNE. Published by La Societe d'Edition et de Publicite Techniques et Artistiques, 13 rue de l'Odeon, Paris 6, France. A monthly printed in French of negligible worth to foreign readership. Yearly rate 680 fr.

TECHNIQUES ET ARCHITECTURE. 17 rue de Prony, Paris, 17, France. One of the most popular French monthlies. However, to date, it has been devoted almost entirely to reconstruction at home. Other coverage, fairly diversified and interesting. Price: 238 fr. per copy.

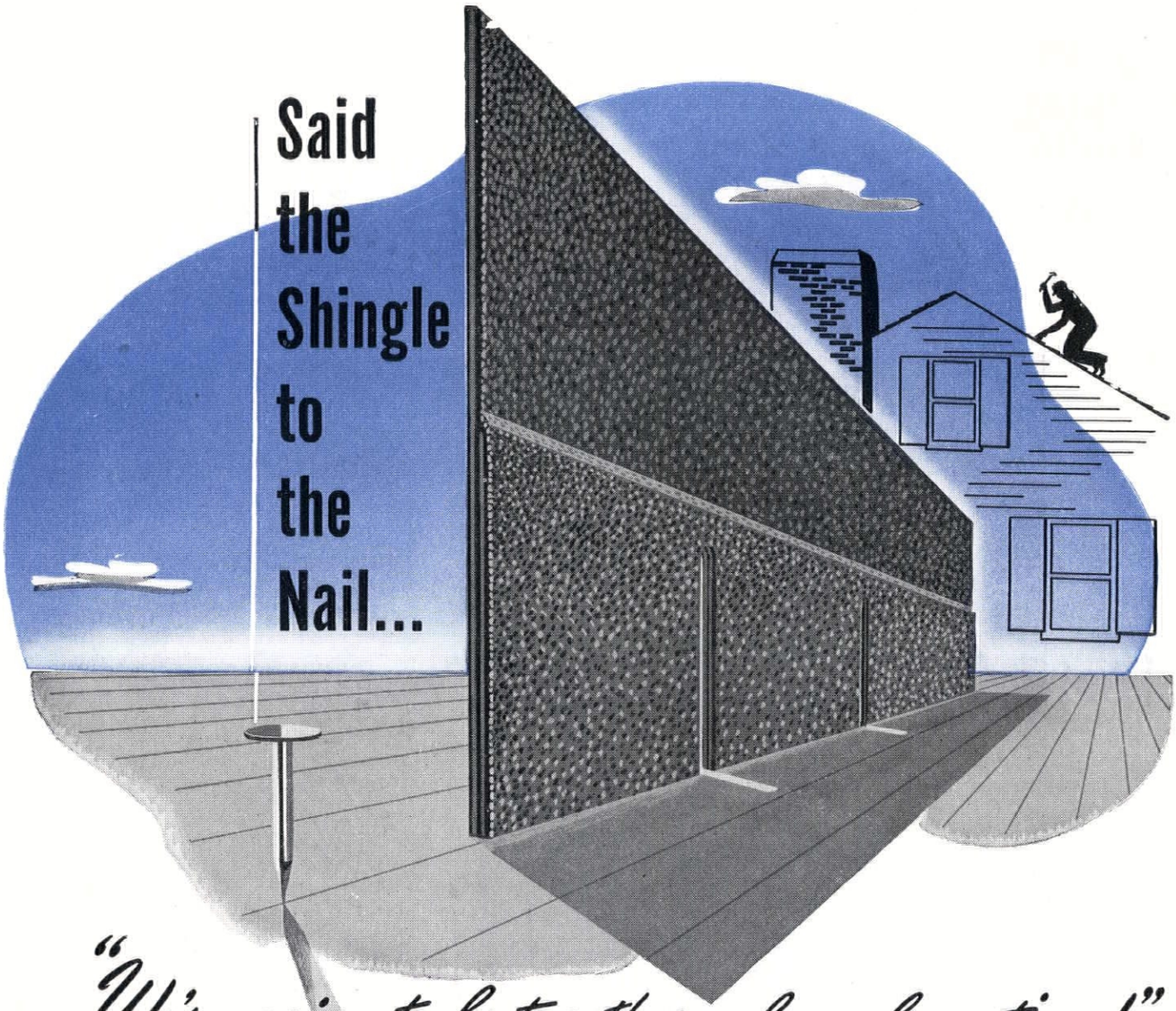
Demand still exceeds supply, despite production at maximum capacity

MORE and MORE PABCO MASTIPAVE

...is on order by old-time users to solve more and more floor problems. From actual experience users know that **MASTIPAVE** is America's No.1 low-cost long-life floor.

Also Grip-Tread MASTIPAVE Non-Slip Wet or Dry

THE PARAFFINE COMPANIES • INC.
NEW YORK 16 • CHICAGO 54 • SAN FRANCISCO 19
Makers, also, of Pabco Linoleums, Grip-Dek Floor Coverings; Pabco Paint, Roofing and Building Materials



...*"We're going to be together a long, long time!"*

Chances are they'll celebrate a silver wedding... since it's a Flintkote Thikbut Shingle speaking. These sturdy shingles are built for extra years of service.

You get all the well-known advantages of a standard Flintkote Shingle... supersaturated quality felt... "4 to 1" stabilized asphalt coating... durable, fireproof, colorfast mineral surfacing.

And you get more. Much more.

Over the tabs we add an extra layer of stabilized asphalt coating, *plus* a second layer of fireproof mineral granules. The result gives your customers virtually two shingles for the price of one... with extra years of service built right into the tab exposed to wind and weather.

So, when you think of roofing... for repair, re-roofing or new construction... think of Flintkote. Extra years of service mean satisfied home owners... satisfied customers for dealers and builders.

The Flintkote Company, Building Materials Division, 30 Rockefeller Plaza, New York 20, N. Y. Offices in principal cities.

the extra years of service cost no more!

FLINTKOTE

FLINTKOTE BUILDING MATERIALS

FLINTKOTE QUALITY BUILDING MATERIALS FOR MANY PURPOSES



• Durable Flintkote Cold-Process Built-up Roofs offer fast, safe, economical application by brush or spray.



• Flintkote Asbestos-Cement Shingles and Sidings... for new construction or economical modernization.

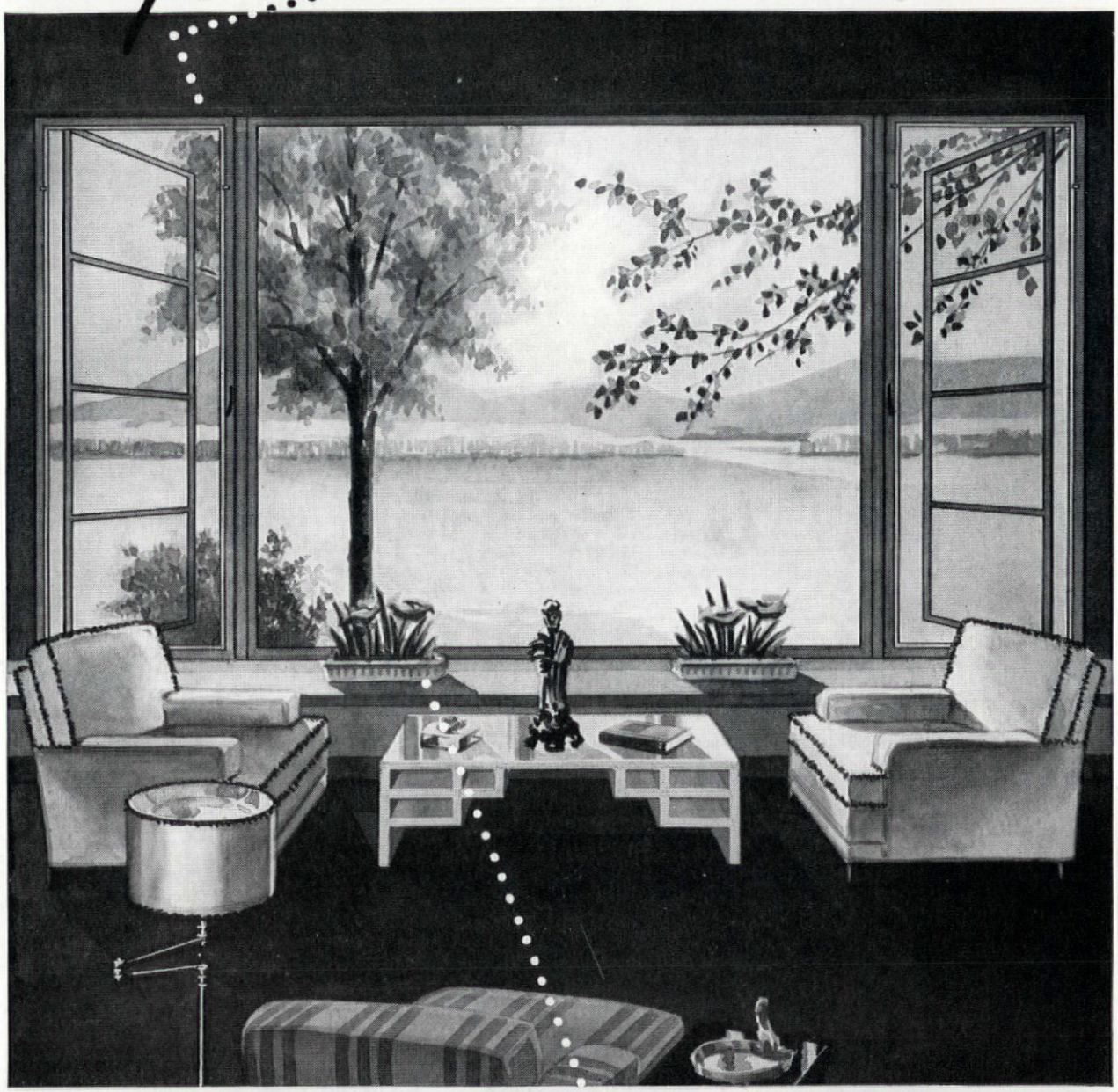


• Flintkote helps make homes comfortable with a complete line of durable thermal insulating materials.

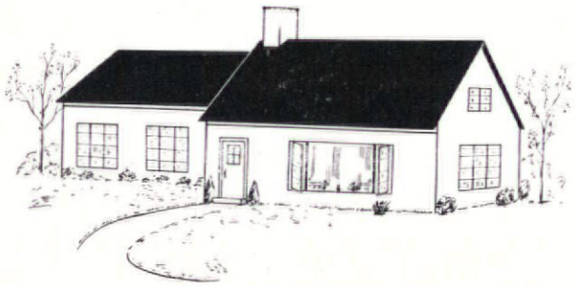


• A new $1,000,000 research laboratory is part of a nation-wide plant expansion program now under way.

Picture Windows of Steel...



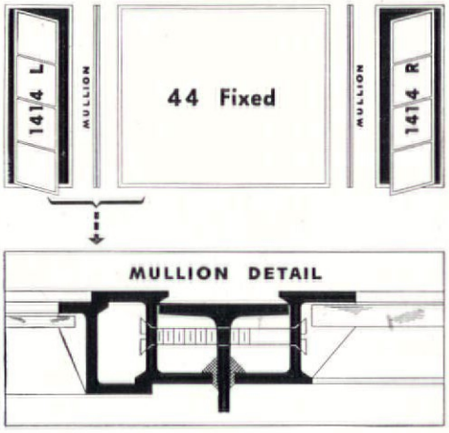
In construction products **CECO ENGINEERING**



that *Breathe* and are Beautiful too . . .

When picture windows are discussed you often hear the remark—"They're beautiful but have limited functional use." In the past, picture windows have been beautiful but that's about all. Other than letting in light and keeping out the elements they had no utility. Now Ceco offers picture windows of steel that are not only beautiful but have full utility, too. This comes from controlled ventilation. Yes, picture windows of steel that breathe. That capture and control every stray breeze. That turn any amount of fragrant fresh air into the home.

And best of all, these picture windows are made from easy-to-install *standard* Ceco casements. Annoying delays are eliminated—no waiting for special frame work. These are *stock* windows. They are easy to operate and always fit—no sticking, warping, or swelling. No fitting, planing or weather-stripping. Cost? Lowest of all installed. Yes, for the greatest utility ever and breathtaking beauty, too, specify Ceco picture windows of steel—an ultra handsome detail for any type of architecture.



HOW TO MAKE A PICTURE WINDOW from CECO Stock Casements

Here's one of many combinations. Order a Ceco stock casement 44 Fixed with muntins removed as illustrated. Combine with Ceco stock casements 1414-Left-Hand and 1414-Right-Hand by use of Ceco standard mullions. There you have a picture window all ready for glazing.

This simple way of assembling reduces cost. The slender lines add beauty, let in 30% more light, too.

METAL WINDOW INSTITUTE MEMBER

See Ceco catalogs in Sweet's Architectural File or write for literature

CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 5701 W. 26th Street, Chicago 50, Illinois

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CECO STEEL

makes the big difference

Partial list of other Ceco Products

METAL FRAME SCREENS • ALUMINUM STORM WINDOWS • MEYER STEEL-FORMS • REINFORCING STEEL • STEEL JOISTS AND ROOF DECK • METAL WEATHERSTRIPS • METAL LATH AND ACCESSORIES • HIGHWAY PRODUCTS



Industry-Engineered L-shape Feature House

For Sparkle

THAT CLINCHES SALES . . . . . .

. . . include Electrical Living engineered by Westinghouse

Buyers are looking for design improvements . . . something better in living. Electrical Living is the answer . . . a house that makes it easy and inexpensive to enjoy the latest in modern equipment, arranged for greatest comfort, ease and efficiency. It's more than wires and switches and equipment. It's planning for their location, arrangement and space . . . so they'll give a new lift to living.

That's what you'll get when you include Electrical Living by Westinghouse in your Industry-Engineered Houses . . . the appeal of Electrical Living at the lowest practical cost.

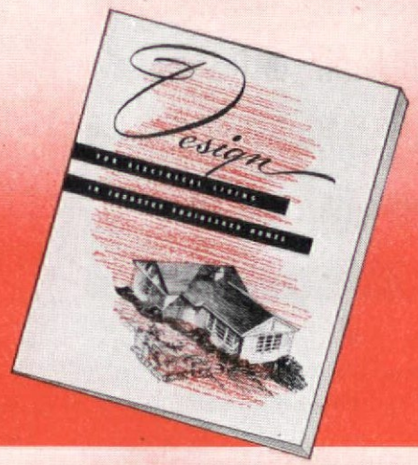
By applying Westinghouse specifications on electrical design to your Industry-Engineered Houses, you will be assured of correct wiring . . . economically . . . kitchens with maximum efficiency, sales-appeal and with acceptable quality. Laundries that make the most economical use of space and location . . . lighting that adds appeal with eye comfort.

The advantage to you of including Electrical Living by Westinghouse . . . Greater attraction to buyers, because you offer refinements in design and equipment that make your house modern . . . electrically . . . give people what they *really* want. Greater economy, because Westinghouse engineering has developed cost-saving details in use of materials and equipment. Recognized quality, because the name —Westinghouse—has wide public approval.

It costs you nothing to get the facts. Send today for a FREE copy of the book—Design for Electrical Living in Industry-Engineered Houses. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-91567

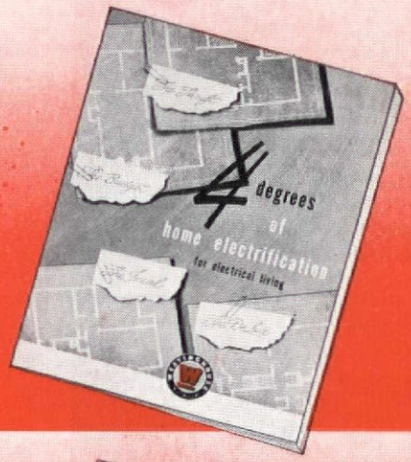
GET COMPLETE FACTS IN THIS *Free* BOOK

From this book you can quickly get the most efficient kitchen plan for two of the basic Industry-Engineered Houses, prepare a bill of material and wire your houses properly. Specifications of Westinghouse electrical equipment are also included. Ready for mailing about Nov. 1.



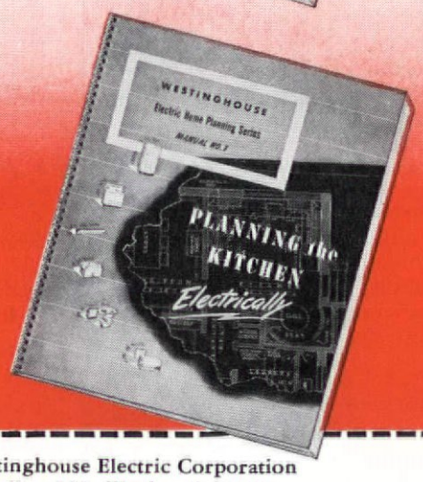
HOW TO DESIGN ELECTRICAL SYSTEMS

This manual shows four basic wiring systems applicable to the "Four Degrees of Electrical Living"—from the minimum standard to the de luxe installation. It includes complete details on service entrance equipment, general-purpose and appliance circuits and distribution centers for each degree. Also suggested wiring specifications. Free upon request.



GOOD KITCHEN PLANNING *Made Easy*

The most comprehensive, practical manual for designers and builders ever produced on Kitchen planning. Contains 64 plans that fit a wide range of kitchens. Drawn to scale . . . easy to trace. Gives bill of material for each. Many other details on design, installation and equipment. Quickly pays for itself in time saved. Price—$1.00 per copy.



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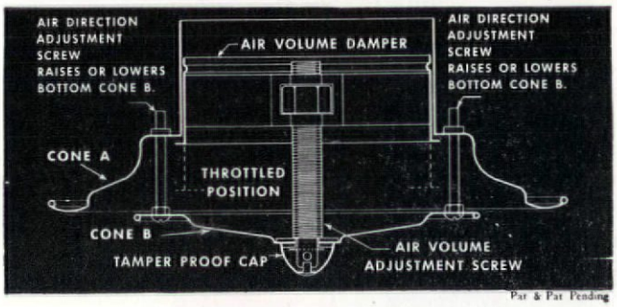
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How ADJUSTABLE air diffusers increase the efficiency of supply air distribution

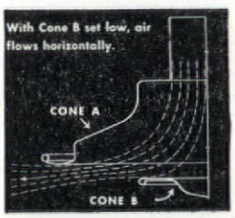
Kno-Draft Adjustable Diffusers offer all the advantages of draftless air diffusion plus fast system balancing and air pattern control

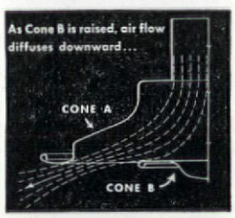


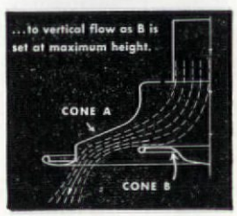
Pat & Pat Pending

Fast System Balancing: Volume damper regulates the air outlet aperture uniformly without affecting the outlet velocity or diffusion pattern.

Positive Air Pattern Control: Air direction adjustment affords any angle of air discharge from vertical to horizontal needed to accommodate ceiling heights, individual or seasonal requirements. It can expel chilled air parallel to the ceiling or eject heated air downward to prevent stratification.







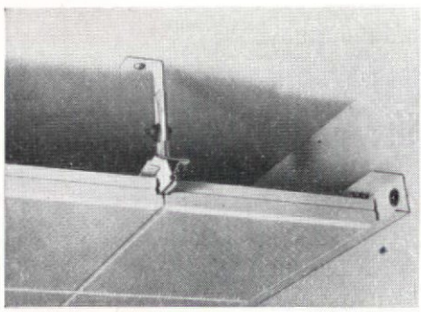
Specify Kno-Draft Adjustable Air Diffusers for better mixing control of room and supply air, more uniform temperatures throughout the occupied zone and noiseless, draftless air distribution.

Send for FREE handbook containing sketches, charts, dimension prints and instructive text that simplify the selection and installation of air diffusers. For your copy, please write Dept. T-15 on company letterhead.

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AIR DIFFUSION AIR PURIFICATION AIR RECOVERY
112 East 32nd Street New York 16, N. Y.
IN CANADA: Douglas Engineering Co., Ltd., 1405 Bishop St., Montreal 25, P. Q.

METAL PAN ACOUSTICAL UNIT is suitable for suspended installations.

Arrestone is a metal pan acoustical unit for use in buildings requiring an incombustible acoustical treatment. It weighs only 2 lbs. per sq. ft., is reported to be highly suitable for suspended installations. The unit consists of a perforated metal pan containing a flameproof, paper-wrapped mineral wool sound absorbing pad and a metal grid. This grid holds the mineral wool pad away from the pan's perforated surface, allowing the entire face of the pad to absorb noise. Arrestone's noise reduction coefficient is .85. Its sound absorbing efficiency is reported to be as high as .99 for sounds originating at 512 and 1024 cycles. Arrestone pans measure 12 in. x 1¼ in., have a 5/32 in. bevel on all face edges. This bevel divides the pan into two parts, gives the unit the appearance of two 12 x 12 in. panels or tiles. Face of the tile has 1105 perforations (.093 in. in diameter) per sq. ft., spaced ½ in. on center in a diagonal pattern. The metal pans are enameled for easy maintenance, snap firmly on to rigid steel T-runners for installation. Standard size pans without perforations are available for borders and designs.
Manufacturer: Armstrong Cork Co., Lancaster, Pa.

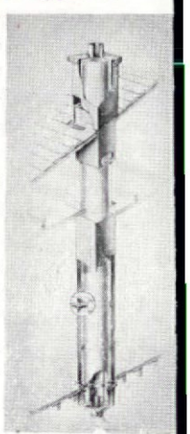


ALUMINUM ROOFING AND SIDING for industrial buildings.

Alcoa's Industrial Roofing is a lightweight, heavy-duty, specially-formed material for use on industrial buildings such as factories, warehouses, storage depots and hangars. Made from a special aluminum alloy, it combines high strength, exceptionally high resistance to industrial atmospheres and reduced roof load. It requires no painting or roof preservatives and, due to its lightweight, can be rapidly installed with small crews. The new product meets safe load requirements (using a factor of safety of 2) ranging from a 30 lb. per sq. ft. uniformly distributed load on 6 ft. 5 in. purlins up to a 105 lb. load on 3 ft. 6 in. purlins. It comes in standard 5 ft. through 12 ft. lengths, is .032 in. thick, has a covering width of 32 in., allowing for a side lap of 1½ corrugations. An industrial siding of the same alloy is also being manufactured. Meeting the code requirements for siding materials, it is available in the same lengths as the roofing and has a coverage of 32 in. All necessary fittings and accessories such as ridge roll, flashings, rivets, nails, straps, etc. will be supplied with the materials.
Manufacturer: Aluminum Company of America, 801 Gulf Bldg., Pittsburgh, Pa.

PREFABRICATED MASONRY CHIMNEY is safe, durable, and economical.

This all fuel, prefabricated, tile-lined masonry chimney, which can be suspended from the ceiling or floor, bears the approval of the Underwriters' Laboratories for use in one or two story houses. Fully tested, it compares favorably with a tile-lined, 24 in. thick brick chimney in safety, is lightweight, durable and permanent. It produces immediate, good draft for efficient operation of heating equipment and may be used with all fuels. The flue is made up of precast sections, 7 in. in diameter and 2 ft. or less in length; a ceiling support or foundation and a housing at the roof. Each precast section comprises a high temperature acid-proof tile lining surrounded by a 3 in. wall of lightweight insulating cement, reinforced by an expanded metal external binder. Adjoining sections are cemented and clamped together, provide a continuous chimney wall that is permanently leakproof. The roof housing is said to incorporate an ingenious design for automatically counterflashing to the roof, and the cap provides attic ventilation, summer or winter. Van-Packer's lightweight flue is fabricated to house dimensions at the factory for easy installation (3 to 4 man hours), and is shipped complete with accessories and instructions. Cost is reported to be 20 to 50 per cent less than for code brick chimneys.
Manufacturer: The Van-Packer Corp., Field Building, 120 W. Adams St., Chicago, Ill.



MASONRY COATING combines weather resistance, durability, easy application.

Para-StoneTex is a new rubber base masonry coating for which entirely new standards of weather resistance, durability and ease of application are claimed. It is said to be positive in withstanding the destructive effects of the alkali present in all concrete, to be extraordinarily resistant to water, easily workable and fast drying. Tests have proved that it is immune and inert to any chemical reactions with alkalis in the most *(Continued on page 152)*

Remember!

Interior-Type Douglas Fir Plywood Now Manufactured With High-Performance Adhesive

. . . As Outlined in New U.S. Commercial Standard CS 45-47

NEW STANDARDS of performance and serviceability are now incorporated in every panel of Interior-type Douglas fir plywood. U.S. Commercial Standard CS 45-47—newly adopted by the Douglas fir plywood industry—sets up a higher quality standard than ever before. Two principal improvements have been made in all Interior-type plywood: (1) Every panel is now manufactured with higher performance adhesive (the premium adhesive long used in Plyform grade); (2) Every panel is manufactured with higher specification inner plys.

And remember, too, that this improved Interior-type Douglas fir plywood is now manufactured in these specific grades:

PLYPANEL
Sound 1 Side

A general-purpose Interior-type panel for applications where only one surface is to be exposed. Plypanel Sound 1 Side (So1S) replaces two former grades—both Plywall and the old So1S grade.

PLYPANEL D.F.P.A.—So2S

PLYPANEL
Sound 2 Sides

For applications where both surfaces are exposed (cabinets, cabinet doors, booth partitions, etc.)

PLYSCORD

An unsanded panel manufactured specifically for wall and roof sheathing and subflooring.

PLYFORM

Manufactured with the time-tested and proved premium adhesive which has now been adopted for all Interior-type Douglar fir plywood. Plyform is a structurally stronger panel, made especially for multiple re-use concrete forms.

● For Permanent Exposure to Weather, Water or Abnormal Moisture Conditions . . . Specify

EXTERIOR-TYPE Douglas Fir Plywood

EXT.-D.F.P.A.

Exterior-type Douglas fir plywood—available in several appearance grades*—should be specified for all permanent exposures to weather, water and abnormal moisture conditions. Higher specification inner plys are now used in Exterior-type Douglas fir plywood—as called for in the new U.S. Commercial Standard CS 45-47. Exterior-type is still manufactured with the same high performance, completely waterproof phenolic resin adhesive which makes this type of plywood so ideal for all outside construction use, for marine applications and for unusual use conditions such as are encountered in the lining of refrigerator cars.

★ *An example is Sound 1 Side Exterior—the grade generally used for the exterior siding of homes and commercial buildings.*

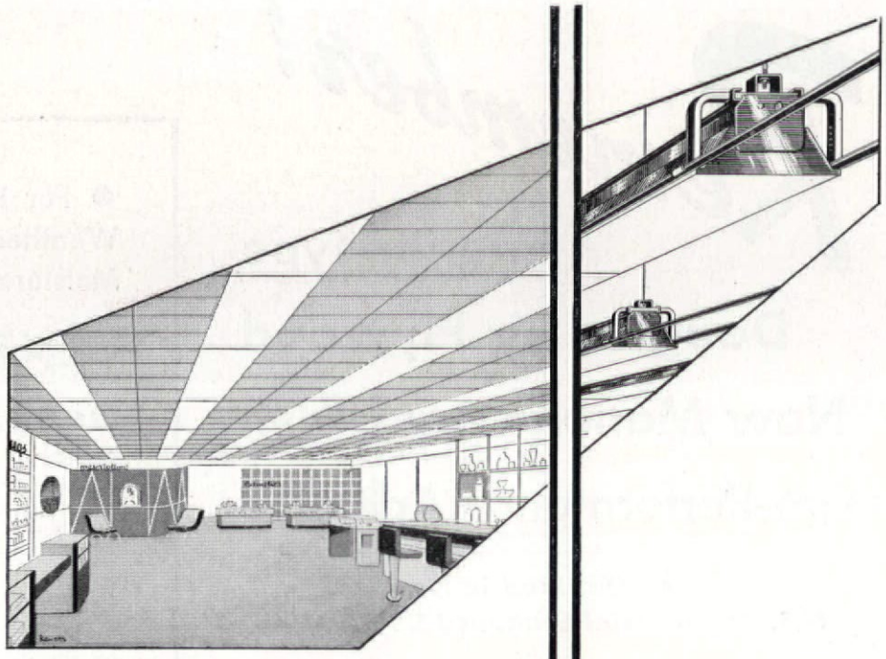
WRITE FOR YOUR COMPLETE COPY OF THIS NEW COMMERCIAL STANDARD

Booklets giving complete data on the new U.S. Commercial Standard (CS 45-47) for all types and grades of Douglas fir plywood are available. Single copies will be mailed without charge to any point in the United States. Address your request to: Douglas Fir Plywood Association, Tacoma 2, Wash.

Douglas Fir PLYWOOD
LARGE, LIGHT, STRONG



Real Wood Panels



you get good lighting plus ceilings unlimited with miller fluorescent lighting systems

For new construction or relighting of stores, offices, schools, factories, and public buildings, MILLER Fluorescent Troffer Lighting Systems offer new flexibility of application. The MILLER Furring Hanger (patented) makes possible the arranging of Troffer light units in blocks, light strips, or geometric patterns, to form any ceiling pattern desired . . . CEILINGS UNLIMITED. FURTHER . . . installation is simplified . . . 50 to 75% fewer supports from structural ceiling are needed . . . wiring costs are cut up to 50% . . . and conduit and conduit fitting costs cut up to 80%.

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MILLER field engineers and distributors, conveniently located, are at your call.

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SINCE 1844

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HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices
ROLLING MILL DIVISION: Phosphor Bronze and Brass in Sheets, Strips and Rolls

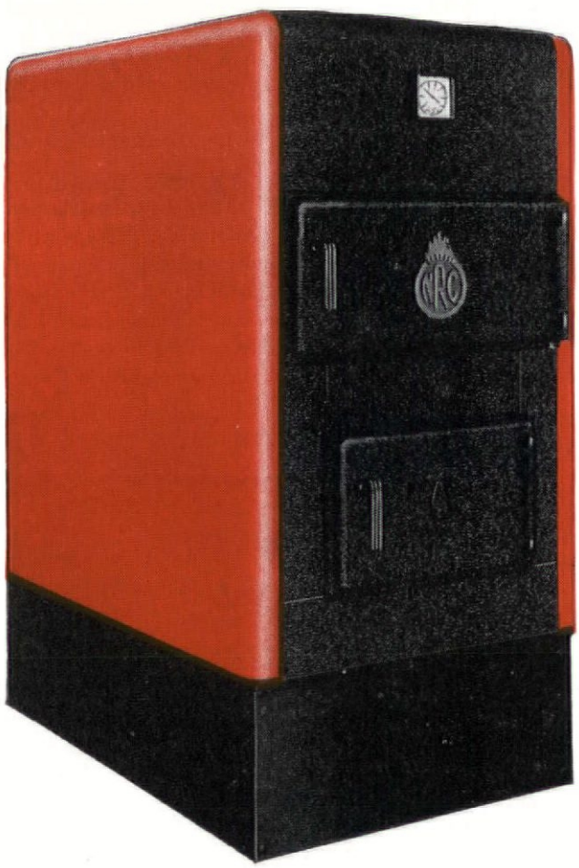
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A NEW LINE

of NATIONAL Residential STEEL BOILERS!

Designed specifically for homes, smaller apartments and small commercial installations. National Residential Steel Boilers are available in 13 sizes ranging in rating from 275 to 3,000 square feet of steam radiation.

This new line of National Residential Steel Boilers embodies the most modern engineering practice for design and production of boilers for mechanical firing. Here are a few of the reasons why you'll be proud to specify "National"—



- √ **FAST, DEPENDABLE HEATING** with multi-tube construction that more effectively brings hot gases and water in contact with heating surfaces.
- √ **FUEL ECONOMY**—through the use of modern engineering design—turbulator tube baffles and more generous insulation of jacket and doors.
- √ **LOW INSTALLATION COST**—boiler and platework are factory-assembled as a unit. Easy handling through small doorways eliminates costly building changes.
- √ **LONG, TROUBLE-FREE LIFE** is assured through high-grade flange quality steel construction and genuine Electrunite tubes. Design and construction meet all requirements of the Steel Boiler Institute Testing and Rating Code, and the American Society of Mechanical Engineers' Boiler Construction Code. All boilers are inspected during construction by a representative of The Hartford Steam Boiler Inspection and Insurance Company. These features add up to a quality product. Specify nothing less! Many makes of boilers do not meet these requirements.
- √ **DOMESTIC HOT WATER SUPPLY**—year 'round, is available with storage or tankless heaters covering a wide range of capacities to meet requirements of homes, smaller apartments and small commercial installations.
- √ **SMART STYLING** with a handsome flame-red jacket and contrasting crinkle-cast black platework.

Contact your nearest Heating Contractor, your NRC heating sales branch or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania, for full product information.

NRC

The NATIONAL RADIATOR Company

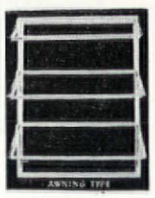
JOHNSTOWN, PENNSYLVANIA



concentrated form in which they could occur in masonry surfaces. No physical or chemical change of the Para-StoneTex film has been detected through continuous contact with water. The new coating is available in white and colors, achieves a good appearance, is said to remain clean.
Manufacturer: Truscon Laboratories, Caniff & Grand Trunk R.R., Detroit, Mich.

STEEL BEDROOM WINDOW provides protected ventilation. Fenestra's new Bedroom Window, a steel residence type casement with an in-tilting vent at the sill, permits all-weather protected ventilation. The built-in sill vent functions as a regular window ventilator. Tilting in to open, it allows the entrance of fresh air in all weather, yet protects the occupants against drafts or falls and the interior against damage from rain or snow. It directs air currents upward toward the ceiling, deflects rain, sleet and snow to the outside. The vent opens easily and will automatically remain in any desired position. A cam-action lock draws it tightly closed. The new precision-built bedroom window incorporates all of the well-known Fenestra features, includes a single swing ventilator and a fixed unit above the vent. All-metal screens are available to fit the unit.
Manufacturer: Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit, Mich.

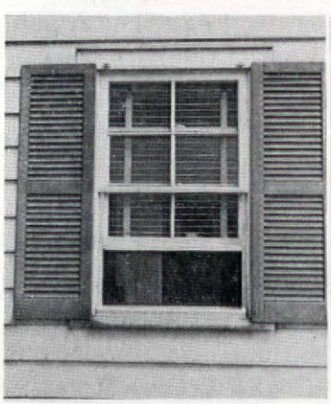
ALUMINUM CASEMENT AND AWNING TYPE WINDOWS feature heavy construction in vent sections. Ware Aluminum Windows comprise a new line of residence casement and awning type units. Fabricated of aluminum alloy, they feature vent sections made with 3/16 in. extrusions, or a heavier than usual vent construction. Joints are electrically flash welded. Hardware is aluminum throughout with the exception of stainless steel pins for the hinges.





The new windows come in a complete line of modular sizes, are prepared for easy installation of aluminum screens and storm sash, which can also be supplied.
Manufacturer: Ware Laboratories, Inc., 21 West St., New York, N. Y.

ROLL WINDOW SCREEN for installation on window sill, is self-rising, self-storing, disappearing. A rolled plastic screen housed in a small aluminum case, the new Roll-O-Matic Window Screen installs on the outside window sill, automatically goes up whenever the window is raised. It simultaneously follows the movements of the window, is rolled in its sill-mounted housing when the window is

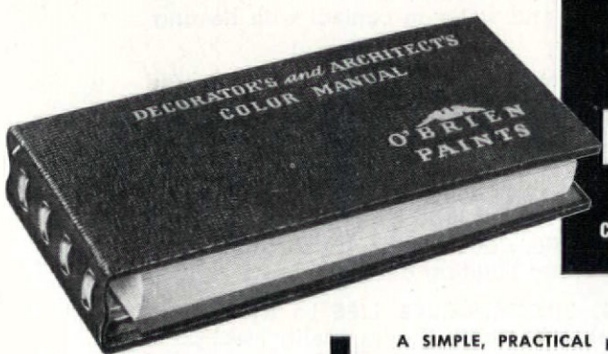




closed. A small catch on the lower cross bar of the window operates the unit. Automatically engaging the screen as the window is opened, it can be instantly released by a slight touch of the fingers if the screen is not needed. Roll-O-Matic Window Screens feature many conveniences for homes, hotels, office buildings and all structures equipped with double hung windows. Once installed, they are always ready for use, yet can be instantly removed to facilitate window washing. Self storing, they eliminate the chore of putting up and taking down screens. Invisible when the windows are closed there are no screens to obscure vision. Another feature of the unit is easy installation with an ordinary screw-driver. Roll-O-Matics utilize tough, rotproof, rustproof plastic screening which will not streak or stain. *(Continued on page 158)*

Now! the new

O'BRIEN COLOR MANUAL
AND
COLOR-SCHEME GUIDE



$1.00 OBTAINABLE ONLY AT O'BRIEN PAINT DEALERS

- Speeds color-scheme decisions!
- Makes color mixing easy!
- Helps you get more and better jobs!
- Enhances your reputation as a reliable color authority!
- Saves time often lost in matching colors — saves headaches!
- Pocket size — always on hand for unexpected conferences!
- Handy reference on many painting problems!

A SIMPLE, PRACTICAL pocket system of color selection (supplement to O'Brien Keyed Color System). Includes over 100 page-size color swatches of standard O'Brien colors or mixtures thereof (with exact formulae) — together with authentic color-schemes and other data!

It's FAST, COMPLETE, AUTHENTIC! Easy to use! With it you can make color-scheme suggestions for any type of room, any type of home or building — show color swatches in advance, of the colors to be mixed for practically *any* color-scheme.

1. COLOR MANUAL — in handy pocket size, 7" x 3⅜"— includes full page standard color swatches and easy-to-make O'Brien mixtures for more than 100 popular colors; plus specifications for using O'Brien Paints; and eleven color cards of leading O'Brien finishes.
2. COLOR-SCHEME GUIDE — now included in the Manual — lists many *authentic*, up-to-date color-schemes for living rooms, kitchens, dining rooms, bathrooms, offices, stores, restaurants, etc.

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FINE Since 1875 FINISHES

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SOUTH BEND 21, INDIANA

they're easier to sell...

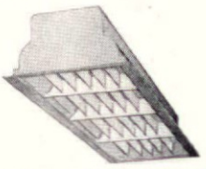
UNDER *Leader* FLUORESCENT FIXTURES



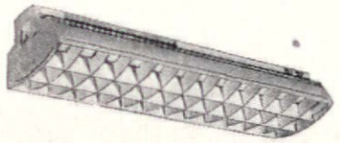
Millinery or motor cars, foods or furniture—all merchandise moves faster, with less sales effort, when correctly lighted. Because the Leader line of fluorescent fixtures for commercial use is complete and provides the right fixture for any installation, Leader fixtures are easier to sell, too.



NHC—440 Leader "New Horizon" with Slim-line tubes. Creates new opportunities for modern lighting, efficiently, with low maintenance costs, versatility of surface brightness, and higher illumination values.



TL-240 Leader "Trofferlite." With many new and exclusive features, Leader's new Trofferlite fixtures are ideal for remodeling or for new construction. For mounting as single units or in continuous rows.



SM-240 Leader "Schoolmaster," A newly styled fluorescent fixture for schoolroom use. Optional feature is a built-in germicidal lamp. The Schoolmaster is also ideal for commercial use.



VL-440 Leader "Officer," America's most beautiful fluorescent fixture. Wafer thin. High gloss white enamel louvers assure maximum soft light diffusion. May be mounted singly or in continuous rows.



Leader Adjustable "Direclite." May be mounted above a display case in a continuous run of "Officer" units . . . or with a single unit . . . to spotlight merchandise for added sales appeal.

Better Light means Better Business

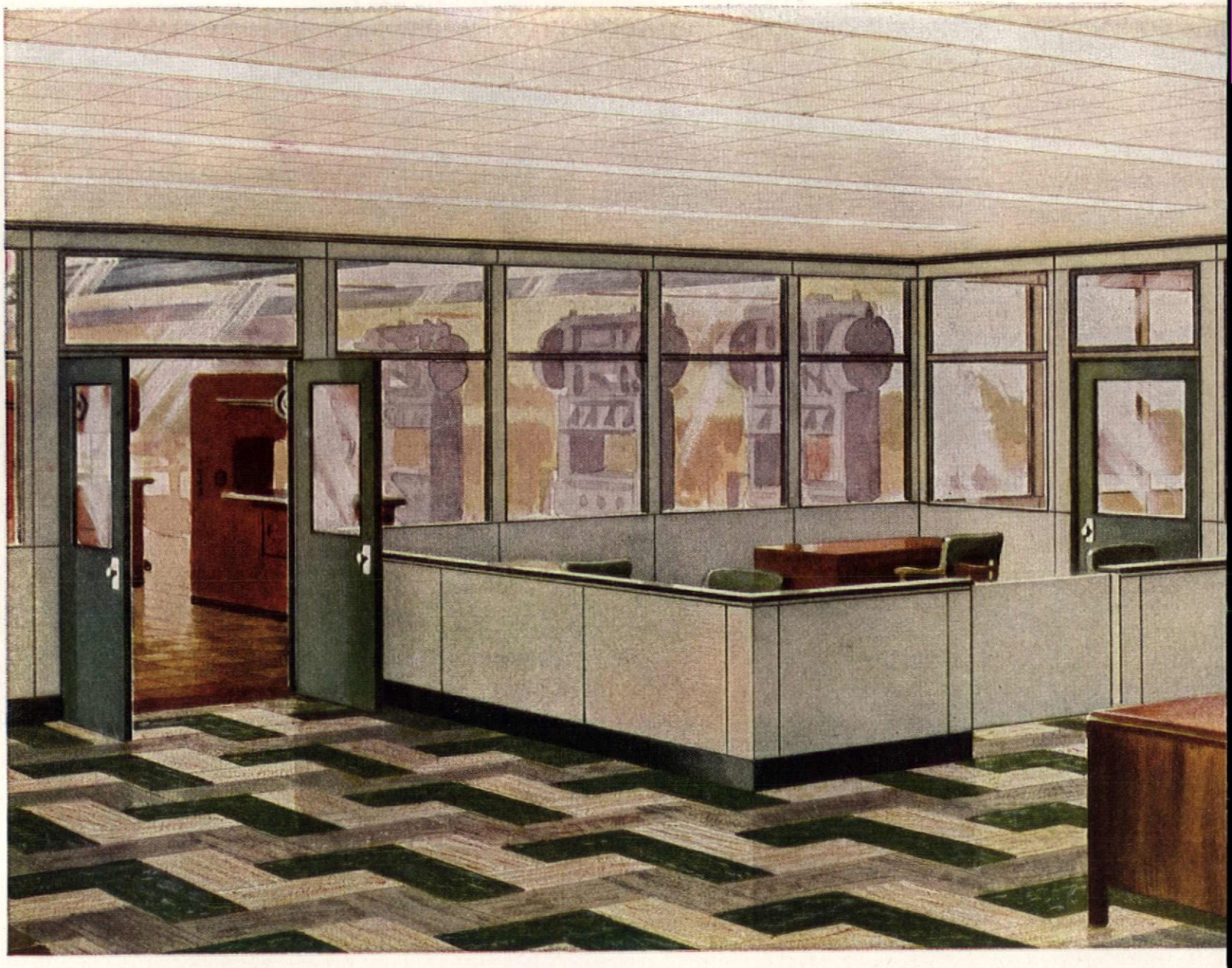
Only better electrical wholesalers and contractors distribute and install Leader fixtures.

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A STEP AHEAD LEADER ELECTRIC COMPANY



Use all 3 products—Walls, Ceilings, Floors—for Johns-Manville Unit Construction . . .

With this new method of interior construction, you can meet the problem of ever-changing space needs.

You can provide for endless revisions of space-use—*at low cost*. You can keep expanding, converting, or subdividing rooms as often as conditions require . . . with little or no interruption to routine activities!

Moreover, the J-M Unit Construction system now makes the *complete interior* available under *one* specification, *one* manufacturer's responsibility.

Three Johns-Manville materials, described at right, are the basis of this revolutionary development. The asbestos Transite Walls are *movable*, 100% salvageable. The Acoustical Ceiling Units are *demountable* . . . can readily be taken down and relocated as desired. And the Asphalt Tile Floors consist of small units which permit easy extension of the floor to meet changing conditions.

Write for colorful brochure, giving full details on the remarkable *flexibility* of J-M Unit Construction.

Production of Johns-Manville Building Materials has now been greatly increased to meet unprecedented demands. So the chances are better than ever that you can get the materials you want when you want them. Write Johns-Manville, Box 290, New York 16, N. Y.

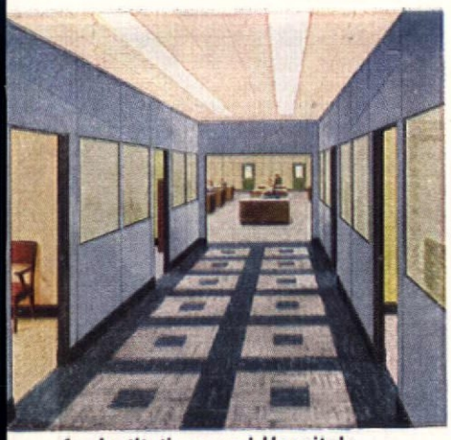
JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

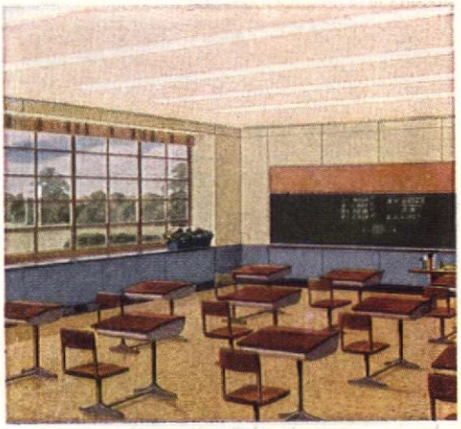
Walls - Ceilings - Floors

. . . for Reception Lobbies and Stores

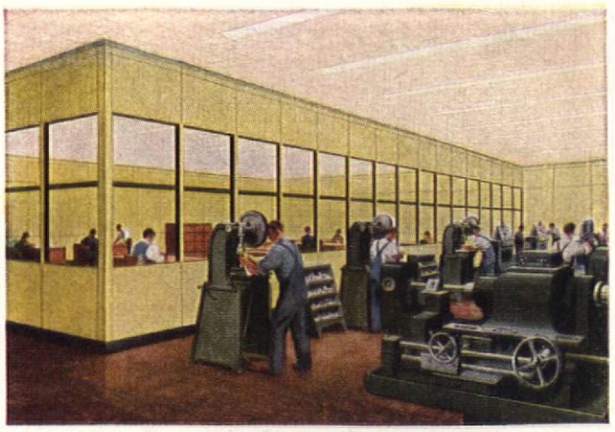




. . . for Institutions and Hospitals



. . . for Schools



. . . for Factory Areas

Flexible Interiors that look to the future!



1. TRANSITE WALLS—*Movable!*

Rooms when and where you want them . . . that's the magic of Johns-Manville Transite Walls—the attractive and sturdy asbestos walls that are *movable*. Now you'll never again need to send partition walls to the dump every time space changes are required!

With the least inconvenience—almost *overnight*—you can enlarge, decrease, or rearrange areas as often as your needs require. Transite movable panels are easy to handle, readily assembled, interchangeable, and can be used over and over again. Made of asbestos and cement, Transite Walls have all the qualities of solid and permanent construction. They provide rigid, double-faced partitions, and can also be used as the interior finish of outside walls.

To make sure your interiors will provide for *change*, write for booklet, "J-M Transite Movable Walls."



2. ACOUSTICAL CEILINGS—*Quieter!*

There's a Johns-Manville acoustical material to give you the best in sound control, no matter what the type of interior.

To assure you the maximum in noise-quieting, Johns-Manville not only provides the correct acoustical materials for each specific condition, but follows through by *installing* the materials *properly* with its own construction crews. In other words, you get "J-M materials installed by Johns-Manville" for best results.

That's the all-inclusive service . . . the *undivided responsibility* Johns-Manville gives your projects.

For further details, send for brochure, "J-M Sound Control." Describes such J-M acoustical products as demountable Sanacoustic, Fibracoustic and Fibretone, Transite Acoustical Panels, and special materials for Broadcasting Studios.



3. ASPHALT TILE FLOORS—*Colorful!*

You spend no more to have *quality* floors like these—attractive and resilient . . . extra-long wearing . . . reinforced with indestructible asbestos!

That's the kind of flooring you get with Johns-Manville Asphalt Tile. It's easy on the eyes, easy on the feet, and easy on the budget, too.

Yes, you'll like *everything* about this modern flooring, including the unlimited range of color combinations—from striking patterns with strong contrasts to solid fields of marbleized colors.

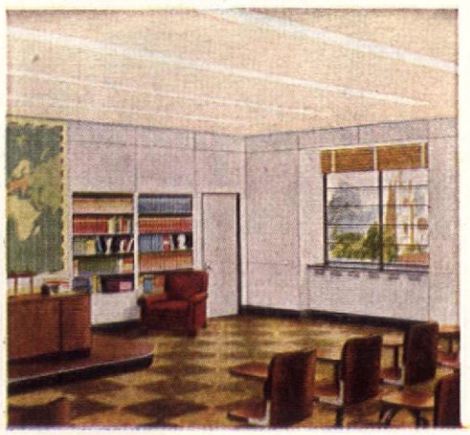
J-M Asphalt Tile does not originate dust . . . stays fresh and unmarred with practically no maintenance. Individual units permit easy repairs.

For areas exposed to oil or grease, use J-M *Greaseproof* Asphalt Tile. Send for full-color brochure, "Ideas for Decorative Floors."

. . . for Offices



. . . for University Lecture Rooms



. . . for Laboratories





Suggested color plan for a modern executive's private office, decorated according to the principles of COLOR DYNAMICS

Color Dynamics...

Pittsburgh's New Painting System helps you choose the right colors to add to the efficiency and comfort of office workers!

EXPERIENCE has proved that industrial workers whose surroundings and equipment are painted according to Pittsburgh's new system of COLOR DYNAMICS benefit in many ways.

Why not have office workers share in these advantages?

Color is a source of power and energy. It can serve as a stimulant or depressant. It can help people to relax, or to feel more cheerful. It can even set their nerves on edge and make them feel irritated and disgruntled.

Properly applied, COLOR DYNAMICS can help make offices more efficient as well as more comfortable places in which to work. It can lessen or prevent eye fatigue which frequently leads to nervous tension and physical fatigue. Reduce eye fatigue and you increase efficiency and often create a better spirit among employees.

With COLOR DYNAMICS rooms can be made to appear longer or wider, higher or lower, halls wider and brighter. And when you specify Pittsburgh Paints, enriched with *"Vitolized Oils,"* these benefits last longer. These special oils, used only by Pittsburgh, keep paint film *live,* tough and elastic.

Write today for your free copy of our new booklet which fully explains how to use the *energy in color.* Pittsburgh Plate Glass Company, Paint Division, AF-107, Pittsburgh 22, Pa.



Paint RIGHT With Color Dynamics
Paint BEST With Pittsburgh Paints!

The benefits of COLOR DYNAMICS are made more enduring when you specify Pittsburgh's long-lasting quality paints. There's a PITTSBURGH PAINT for every need!

WALLHIDE—in three types: **PBX**—extra durable finish which can be washed repeatedly without streaking or spotting. **SEMI-GLOSS**—for higher sheen. **FLAT**—velvet-like finish for offices, libraries, dining rooms. These paints are enriched with *"Vitolized Oils"* for *live-paint protection.*

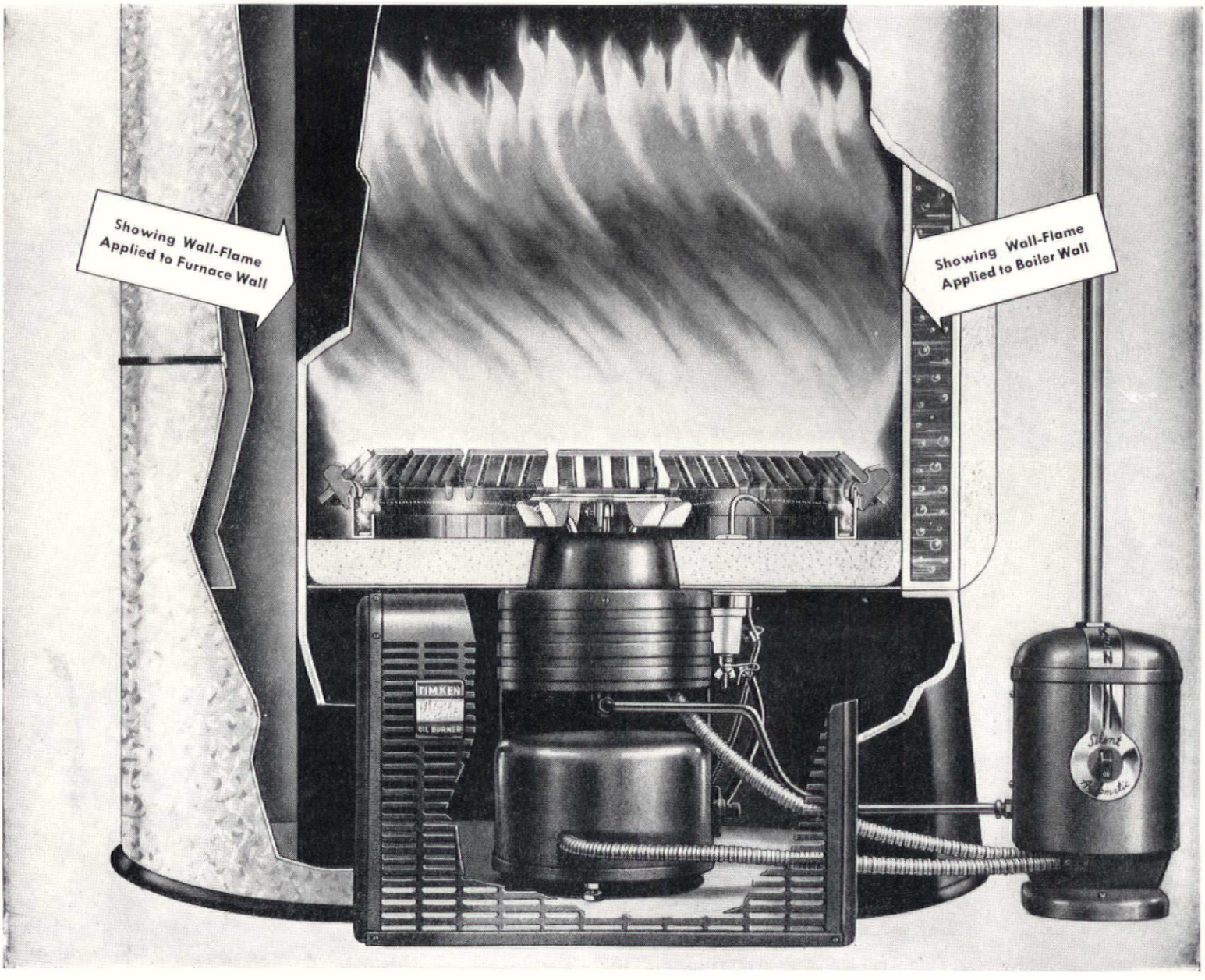
WATERSPAR ENAMEL — for furniture, woodwork, metal trim—its rich gloss resists marring and abrasion.

FLORHIDE—for floor surfaces. Quick-drying, tough, can be scrubbed frequently with soap solutions.

PITTSBURGH PAINTS

PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS



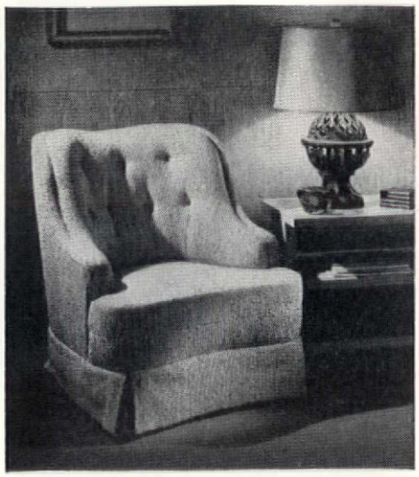
BASICALLY DIFFERENT — BASICALLY BETTER
THE FINEST OIL BURNER MONEY CAN BUY

Fuel savings of one gallon in every four are common among Timken Owners.

TIMKEN
Silent Automatic
OIL HEAT

TIMKEN SILENT AUTOMATIC DIVISION
The Timken-Detroit Axle Company
JACKSON, MICHIGAN

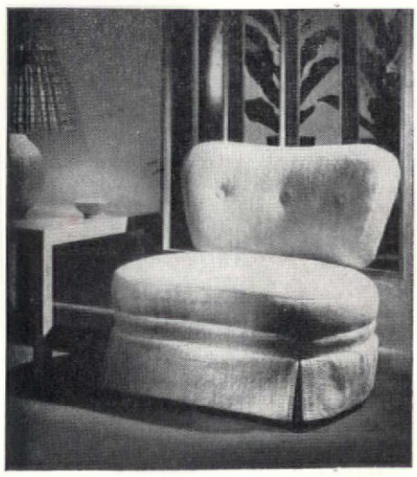
The Accepted TIMKEN HEAT Standard



DUNBAR
For
MODERN



DUNBAR FURNITURE MANUFACTURING COMPANY
BERNE, INDIANA
1638 Merchandise Mart, CHICAGO 54, ILL.
385 Madison Ave., NEW YORK 17, N. Y.
203 Clarendon St., BOSTON 16, MASS.



are held taut by a spring roller. The aluminum housing measures only 1⅝ in. high by 1⅝ in. deep, can be scarcely seen from inside the room. The new screen units are available in standard window sizes, are said to be low priced.
Manufacturer: The Roll-O-Matic Screen Co., 850 Euclid Ave., Cleveland, Ohio.

ALUMINUM STORM SASH AND WINDOW SCREEN for double hung windows saves time and work.

This all-aluminum combination storm window and screen unit is a permanently installed auxiliary window frame which affords rapid transformation from summer screens to winter storm sash inside the house. Incorporating a built-in self-storing feature that allows the screen and two storm panels to remain in the frame all year, it eliminates the seasonal chore of putting up and taking down storm sash and screens and solves their storage problem. In summer the two storm panels stay in a raised position with the screen protecting the lower portion of the window. In winter one of the panels pulls down. The screen remains in place or can be removed if desired. The new unit furnishes good all-weather ventilation and protection and, according to the manufacturer, provides a weathertight fit for any double-hung window regardless of size without costly fitting. Similar combination units for fixed windows and in-swinging wood casements are available.
Manufacturer: Ceco Steel Products Corp., 5701 W 26th St., Chicago, Ill.

GAS RANGE for use in cold climates combines cooking facilities and room heater.

Designed to provide kitchen warmth in cold localities, the new all-gas Kitchen Heating Range features an efficient, thermostatically-controlled room heater plus a Quality cooking range. The heater assures instant warmth at the turn of the gas valve. An accurate room thermostat automatically maintains the desired temperature, and a positive automatic safety shut-off valve protects the unit. Cooking facilities of the range include the familiar Centra-cook top; an oven 16 in. wide, 20 in. deep, 14 in. high; automatic Uni-Top burner lighting; Minute Minder and many other Quality features. Kitchen Heating Range measures 36 in. wide by 27 in. deep, has a overall height of 49 in., a cooking top height of 36 in.
Manufacturer: Roberts & Mander Corp., Hatboro, Pa.



REVOLVING SHELF UNITS for installation in kitchen wall and base cabinets, basement areas, clothes closets.

Lazy Daisy revolving shelf units consist of circular shelves which revolve on a patented non-friction support. A slight touch twirls the shelf, brings to the front any item desired. Lazy Daisies eliminate dark, wasted corners, end the confusion of groping after things at the back of the shelf or closet. Principle of the revolving shelves is the use of a shaft which is seated on a single ball bearing. A steel floor flange holds the ball bearing. Center shaft rests upon it and supports the metal bound, plywood shelves. Riding free on the shaft is a stop-collar which, after the steel top flange is screwed to the ceiling of the closet, is slipped upward and fastened to eliminate any play in the mechanism. *(Continued on page 162)*

tread
stock
by
ALBERENE

FOR SAFETY

Alberene stone's highly-toothed surface is always safe — wet or dry.

FOR WALKING COMFORT

Slip-proof, but never excessively so, Alberene stone treads retard your feet, but never bring them to a dead stop.

FOR DURABILITY

Dollar for dollar, Alberene gives you higher abrasion resistance than other stone. It's pit-proof, too.

FOR BEAUTY

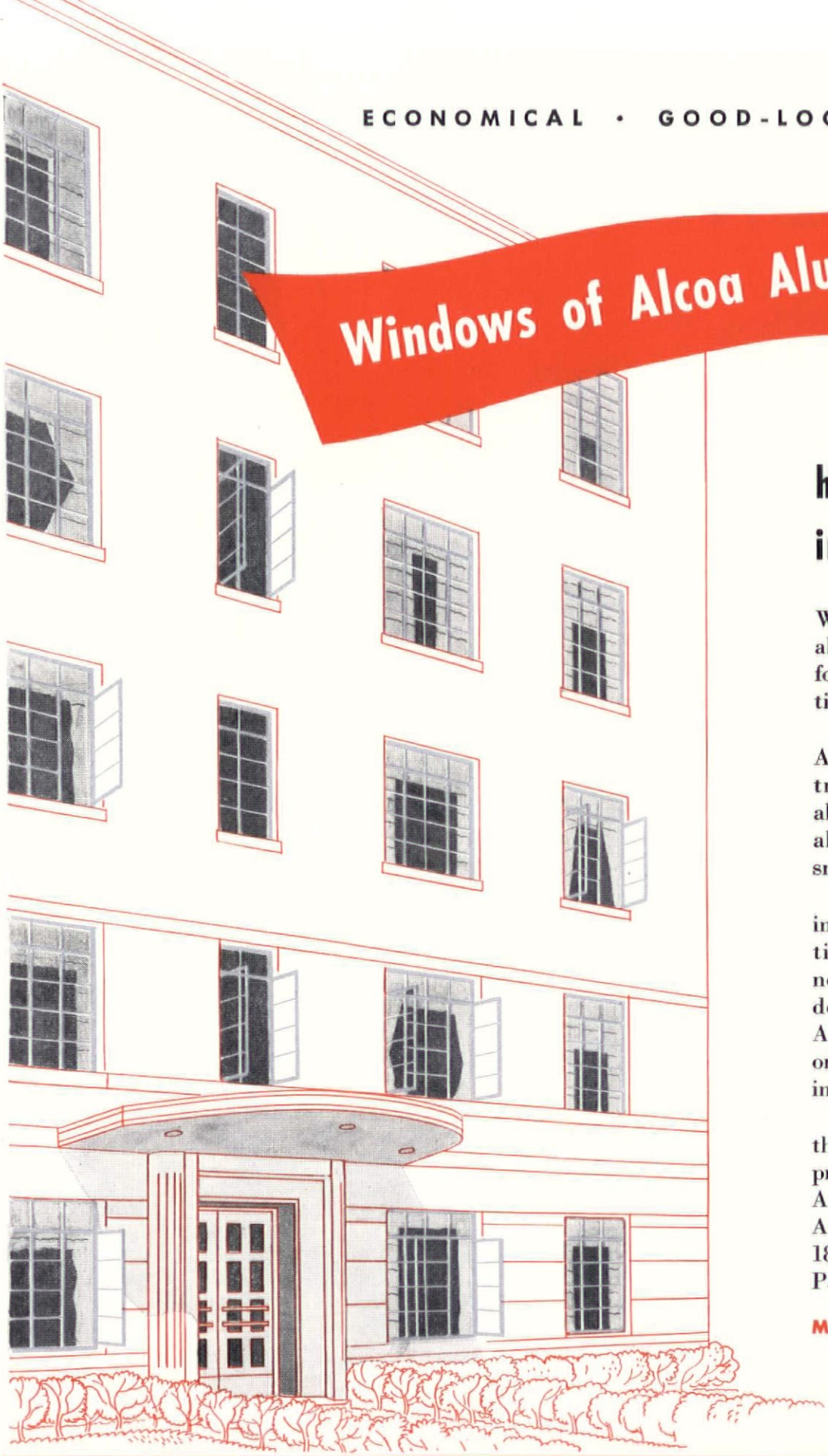
Alberene stone's fine, *finished* appearance . . . its neutral blue-gray color . . . harmonizes with any wall treatment.

For full data about the many advantages of Alberene tread stock, write —

ALBERENE STONE CORP. OF VIRGINIA
419 — 4th Ave., New York 16, N. Y.

ECONOMICAL • GOOD-LOOKING • TROUBLE-FREE

Windows of Alcoa Aluminum



help turn rental income into profits!

When your client asks, "How about upkeep costs?" the answer for aluminum windows is, "Practically nothing."

Windows of long-lasting Alcoa Aluminum will give years of trouble-free service. Because aluminum can't shrink or swell, aluminum windows keep their snug fit; stay easy to open and close.

Aluminum windows help buildings to stay modern and attractive in appearance. The soft, neutral color blends with all designs and materials. Alcoa Aluminum can never rust, streak, or stain adjoining surface. Painting expense is eliminated.

For housing or commercial units that will turn rental income into profits, include windows of Alcoa Aluminum. For information, write ALUMINUM COMPANY OF AMERICA, 1866 Gulf Building, Pittsburgh 19, Pa. Sales offices in leading cities.

MORE PEOPLE WANT
MORE ALUMINUM FOR
MORE USES THAN EVER

REG. T. M.

ALCOA FIRST IN ALUMINUM

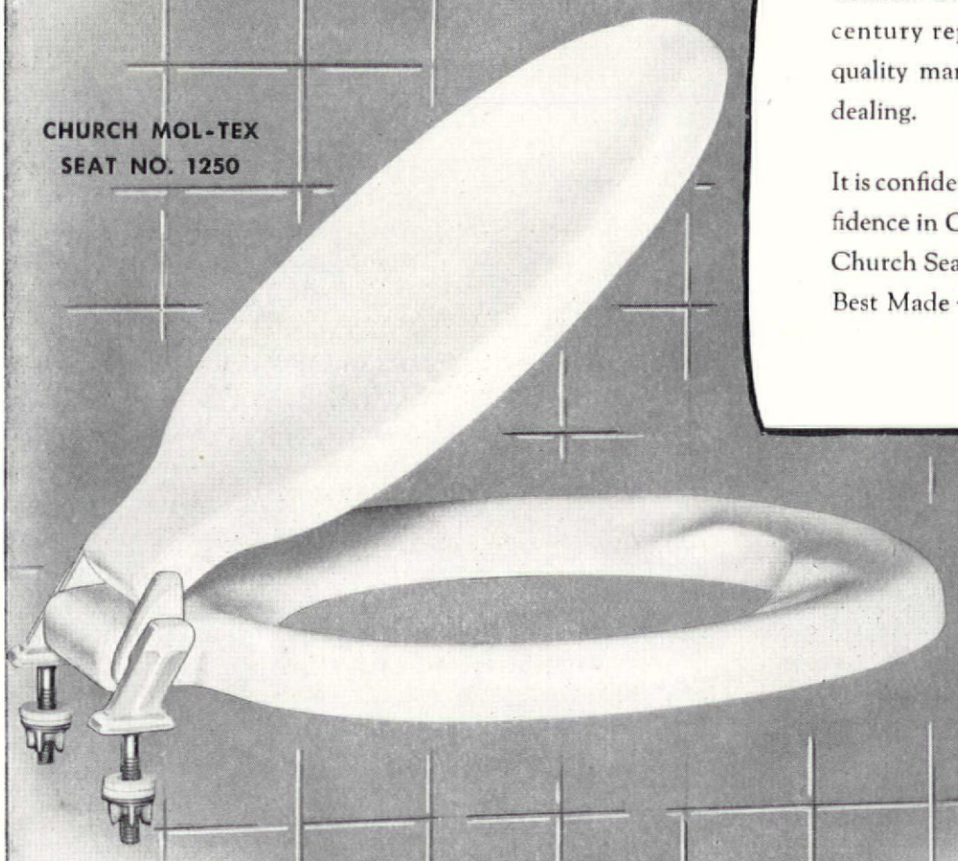
IN EVERY COMMERCIAL FORM

CONFIDENCE...

In any successful business you'll find that public confidence is the backbone of its success.

When you recommend "Church Seats" you have confidence in the Church Company's nearly half-century reputation for highest quality manufacture and square dealing.

It is confidence in product — confidence in Company — that make Church Seats the Best Known — Best Made — Easiest to sell.



CHURCH MOL-TEX
SEAT NO. 1250

WHITE
OR
BLACK

CHURCH SEATS

"THE BEST SEAT IN THE HOUSE"

C. F. CHURCH MFG. CO., HOLYOKE, MASS.

Division of American Radiator & Standard Sanitary corporation

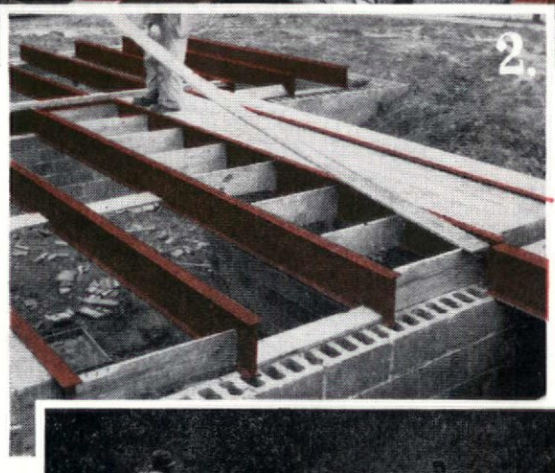
ASK FOR **CHURCH SEATS** BY NAME

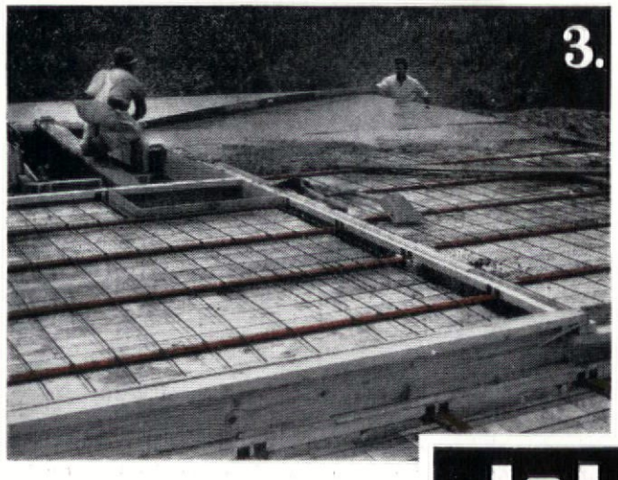
Easy to install—Easy to sell

J&L Steel Junior Beam Floors

Rigid, Fireproof, Vermin proof







Your plans and methods can be quickly adapted to provide your houses with J&L Steel Junior Beam floors. Installation of this rigid, fireproof, vermin and termite proof, shrink-proof floor is simple and fast. It can be accomplished with a minimum of labor. Also you will save money by eliminating return calls by your contractor to repair plaster cracks, sagging doors, stuck windows and creaking floors.

Prospects quickly see the advantages of permanence, safety from fire, cleanliness, low maintenance and resulting economy provided by J&L Steel Junior Beam floors. They make your houses easier to sell and enhance your reputation as a builder.

J&L Junior Beams are immediately available (see below). Write for booklets *"J&L Junior Beams for Residences," "Engineering Data"* and *"Nine Simple Steps"* to help you in designing strong, permanent flooring that is easy to install—makes for quick sales.

1. Main wide-flange carrying beam which will support bearing partition also supports Junior Beams on bottom flange. One inch wood spreaders are being placed to space Junior Beams properly.

2. Form boards are being placed on wood spreaders which are cut to length so five form boards may be used without ripping. Duct openings are provided in form work. Depending upon the total live and dead load to be carried, Junior Beams can be spaced to accommodate 4, 5, or 6 form boards.

3. Reinforcing rods have been clipped to top of Junior Beam. Form is complete and sills for carrying studs above first floor placed. Sills are used as screeds to level the concrete slab. Various types of finished floor may be used, such as carpet on pads, wood parquet, linoleum or mastic tile.

J&L STEEL

IMPORTANT: The wood spreaders and form boards can be salvaged for sheathing or reused as forms.

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH 30, PA.

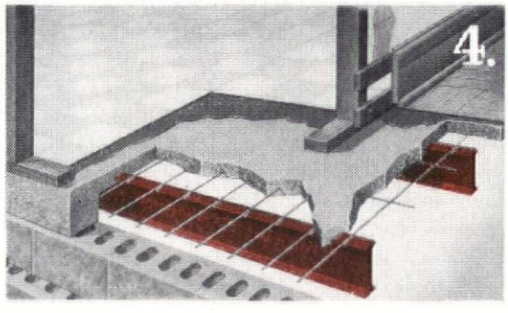
Immediate Delivery From Your Favorite Warehouse . . .

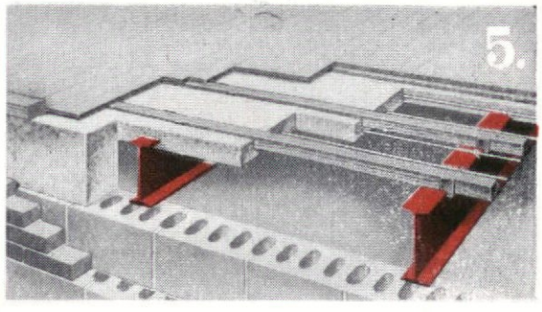
or . . . any of the following J&L Warehouses: Chicago • Cincinnati • Detroit Pittsburgh • Memphis • New Orleans • Long Island City, N. Y.*

*Operated by Jones & Laughlin Steel Service, Inc.

4. This "cut away view" shows Junior Beams, reinforcing rods, slab with firestop, studs for non-bearing partition and finished tile and parquet floors.

5. Shows how conventional hardwood flooring can be nailed to strips which were clipped to top of beam before concrete slab was poured.





As many or as few shelves as desired can be used on the shaft and shelf height can be easily adjusted. Lazy Daisy units fit into regular cabinets, have many applications. They are available in suitable types and sizes for installation in kitchen wall and base cupboards, basement and pantry areas, clothes closets and retail store windows. Units come painted with one prime coat, need no servicing or mechanical attention when once installed.

Manufacturer: Lazy Daisy Division, Hoosier Industries, Inc., 1111 Washington St., La Porte, Ind.

MEDICINE CABINET incorporates fully adjustable mirror door for easy seeing.

An all-metal surface type medicine cabinet, Swing-A-Door features a fully adjustable mirror door to allow the user a close-up view in any convenient position. Eliminating the







neck turning and stretching often necessary to see in a conventional cabinet mirror, the new adjustable mirror door pulls out toward the user, swings from side to side, assumes any convenient seeing angle. Crux of the adjustable mirror is an ingenious "hidden arm". It permits the mirror door to fit snugly to the frame when closed, to open and close in the conventional manner, to pull forward or adjust to any useful angle. When set, the mirror remains in position until moved. Swing-A-Door Medicine Cabinet measures 14 x 20 in., is finished in baked white enamel, has a full size quality mirror set in a polished chrome-plated frame, two shelves.

Manufacturer: County Metal Mfg. Corp., Builders Division, 103-105 Greene St., New York 12, N. Y.

TUBULAR AND MORTISE LOCKS incorporate new construction, can be installed in thin doors.

Incorporating a new space-saving cable construction, Shaw's new line of Aircable tubular and mortise locks features smooth, frictionless operation, small cases for easy installation in thin doors. The construction is based on the use of a high tensile strength, stainless steel cable designed originally for airplane controls. This cable inside the tubular latch circles a pully-like hub on the door knob spindle. Thus with a quarter turn of the hub the cable retracts the latchbolt with no sliding friction between cable and hub. In the Aircable cylinder locks there is another cable drive from the cylinder to the locking hub of the latch. It is sealed in an escutcheon plate permitting the use of the *(Continued on page 166)*



HOW CAN YOU MEASURE *Reliability*?

Reliability cannot be measured in a measuring cup, because the measurement of reliability is not in ounces, quarts or gallons! However, it can be measured in terms of client relationship and performance over a long period of time. The reliability of UNIVERSAL RANGES has been known for over three quarters of a century. It is this standard of reliability by which all other GAS ranges are measured. UNIVERSAL Gas Range performance proves *GAS HAS GOT IT*—all the modern automatic cooking features desired by women are provided by the most reliable of cooking fuels—GAS, and by the standard of reliability —UNIVERSAL GAS RANGE. Specify the UNIVERSAL.

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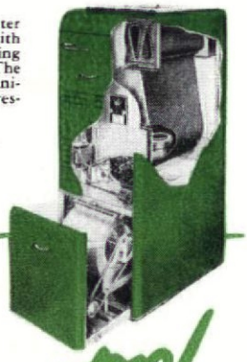
LIFE IN INDIANA

More Indianians read LIFE than any other weekly magazine — 572,000 every week! As a matter of statistical fact, LIFE is the most widely read weekly magazine in every other state, too.

•

26 million readers coast to coast

The new Mueller Climatrol Type 209 Winter Air Conditioner is a compact vertical unit with the blower assembly mounted in a ball-bearing Roll-a-Drawer below the heat exchanger. The heat exchanger is streamlined to provide uniform distribution of air, minimum static pressure, and high rate of heat transfer.



NEW

Mueller Climatrol Type 209 Oil-Fired Winter Air Conditioner



gives your clients unique features for extra convenience and economy

You can mark up another "first" for Mueller Climatrol: The Roll-a-Drawer — a service unit (patent applied for) which mounts the entire blower, motor, and drive assembly on ball-bearing rollers, so that it is completely accessible for adjustment and servicing, with a flick of the wrist.

The all-welded heavy steel heat exchanger is thermodynamically designed, has *no internal baffles* to cause strains or noises, is electric-arc welded throughout, with all passageways *easily cleanable* from the front access panel.

The Type 209 Mueller Climatrol is available in three sizes, with vaporizing or pressure atomizing oil burner, and is *shipped from the factory in a completely assembled package.* Compact in size, it easily goes through any normal closet door. Filters may be installed in the bottom, either side, or the rear of the handsome, green cabinet.

The Type 209 Mueller Climatrol sells itself to your clients and keeps them sold, by delivering the true indoor comfort of "climate control."

It really pays to recommend the Type 209 . . . it delivers the indoor comfort your clients want in their new homes! Write for complete information. *L. J. Mueller Furnace Company, 2001 West Oklahoma Avenue, Milwaukee 7, Wisconsin.*

MUELLER Climatrol

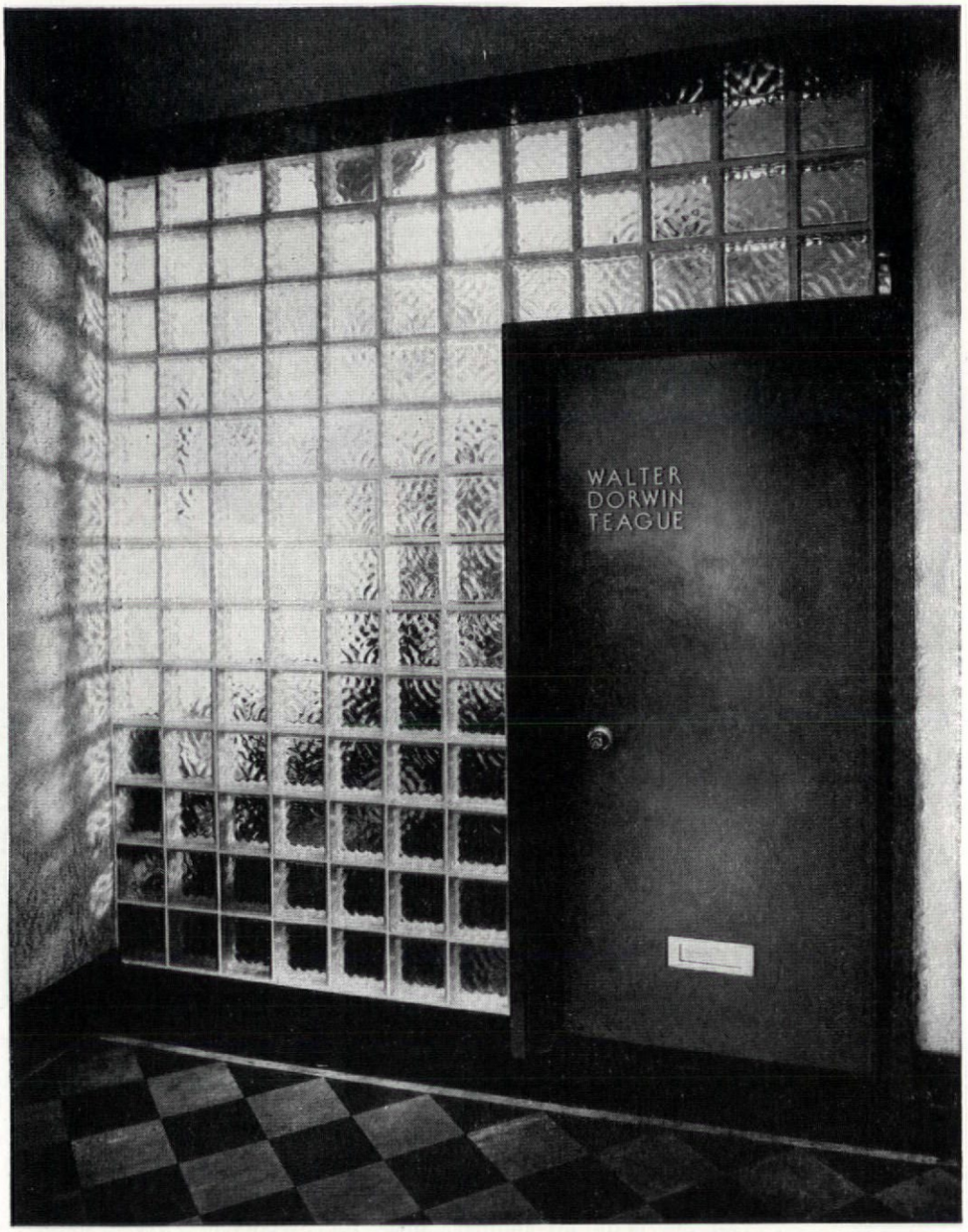
REG. U. S. PAT. OFF.

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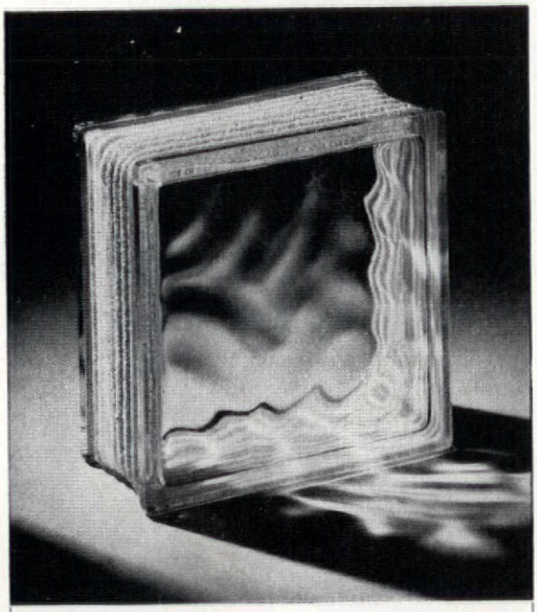




Insulux partition provides privacy in reception room of Walter Dorwin Teague's Los Angeles office—adds daylight and more spacious appearance.



Walter Dorwin Teague, eminent Industrial Designer's Los Angeles office utilizes Insulux Glass Block in a floor-to-ceiling partition to highlight office entrance.



OWENS-ILLINOIS

INSULUX

GLASS BLOCK

Insulux Glass Block is a functional building material, designed to do many things other materials cannot do. It is available in three sizes, many functional and attractive face patterns. Investigate!

Open the door to better lighting

LET outside light in, yet maintain business office privacy . . . that's one of the many problems architects are solving with Insulux Glass Block.

Ideally suited for residences, apartments and industrial buildings, Insulux Glass Block is easily installed. When construction is completed, panels are permanent, high in insulating qualities and easy to clean. There's nothing to rot, rust or corrode.

In keeping with modern design trends Insulux relieves dark and gloomy spots and allows a new flexibility and originality in planning.

For complete technical data, specifications and installation details, see the "Glass" Section of Sweet's Architectural Catalog, or write Dept. D-22, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

a modern building is truly modern...

when pipe joints are SILBRAZ*

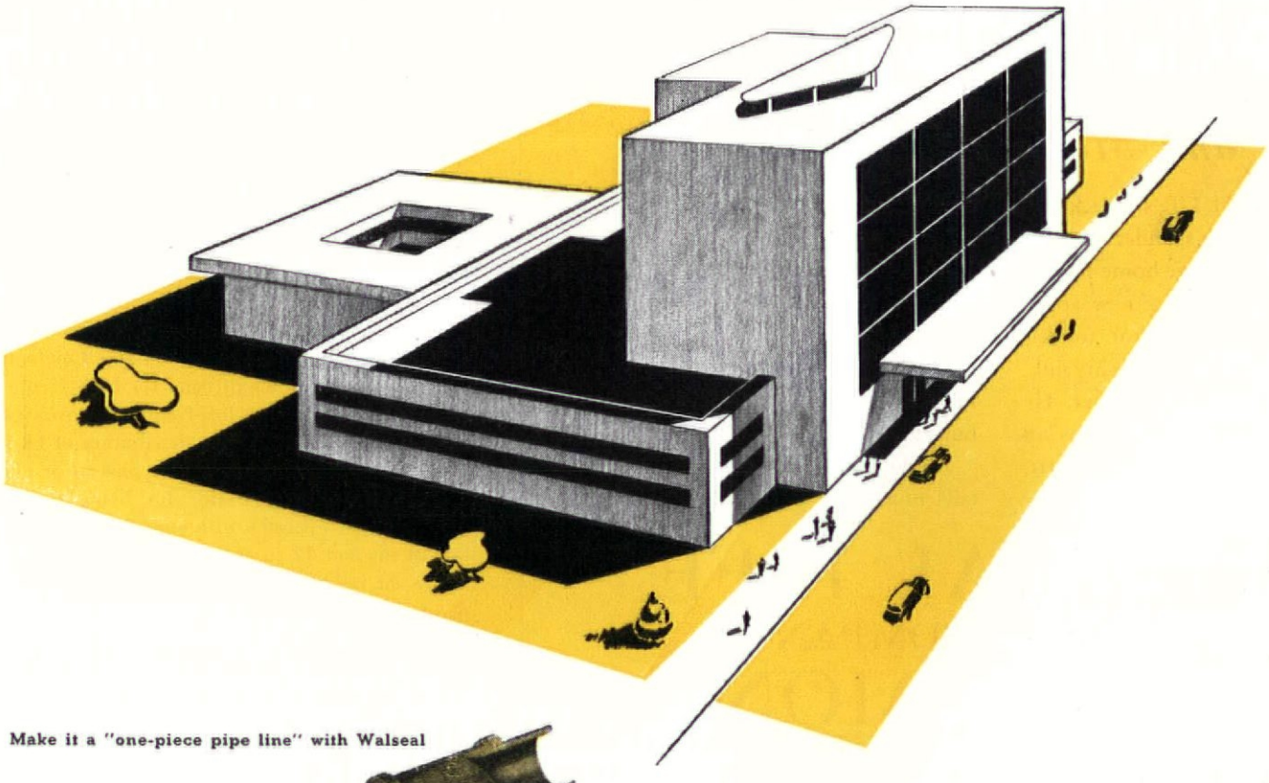
Silbraz joints are leakproof, vibration-proof, and corrosion-resistant. They make the ideal connection for all piping systems where "B" copper tubing or brass pipe is used.

Threadless, Silbraz joints are permanent . . . will not creep or pull apart . . . save trouble and cost by eliminating leaks . . . literally join with the pipe to form a "one-piece pipe line." No properly made Silbraz joint has ever been known to fail under any condition which the pipe itself can withstand. If you are looking for maintenance-free pipe lines — for either new construction or remodeling — specify Silbraz joints.

Walseal* Valves and Fittings for Making Silbraz Joints

Walworth Company manufactures a complete line of Walseal Valves, Fittings, and Flanges for making Silbraz joints — the modern method of joining brass or copper piping. For further information, see your nearest Walworth distributor, or write for Circular 84J.

*Patented — Reg. U. S. Pat. Off.



Make it a "one-piece pipe line" with Walseal



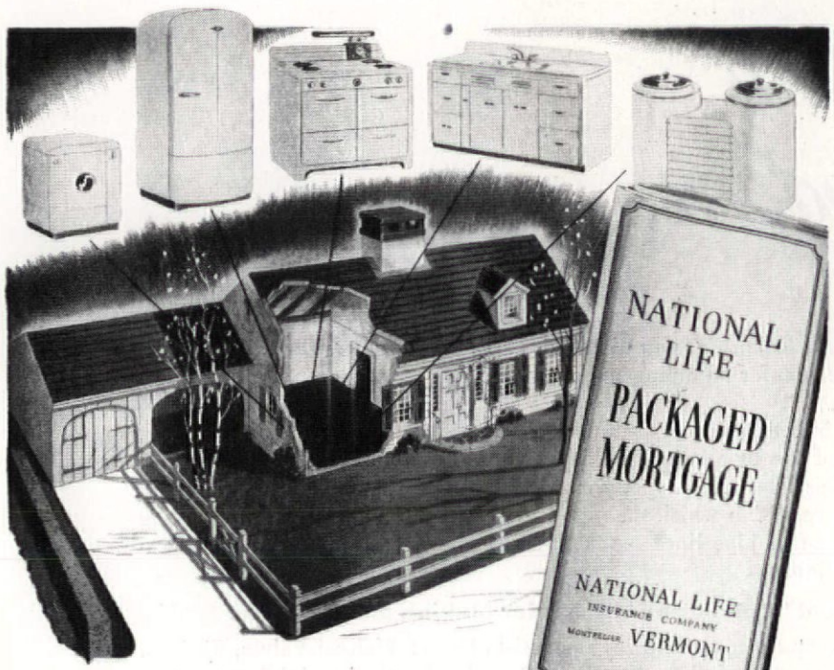
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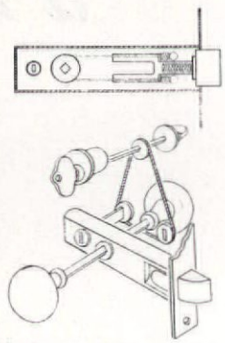
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full thickness of the door to house the five pin cylinder. All tubular locks for both interior and exterior doors with cylinders fit into a 7/8 in. bored hole. They have a 9/16 in. throw on the latchbolt, identical face dimensions, 2 3/8 in. backset and identical curved lip strikes. Aircable mortise latches and locks have cases only 3/8 in. thick, thus can be easily installed in panel or laminated doors as thin as 3/4 in. A screen door mortise latch with a case 3/8 in. thick and full 1/2 in. latch bolt extension is also available for installation in a 7/8 in. screen door. Aircable locks have all-steel interior parts and are available in three types: inside latch, bathroom and bedroom lock and cylinder knob sets. For on the job convenience bedroom, bathroom and cylinder latches are identical and interchangeable. Sets are furnished in brass trim with choice of door knob designs. *Manufacturer:* Duncan Shaw Corp., 33 W. 42nd St., New York 18, N. Y.

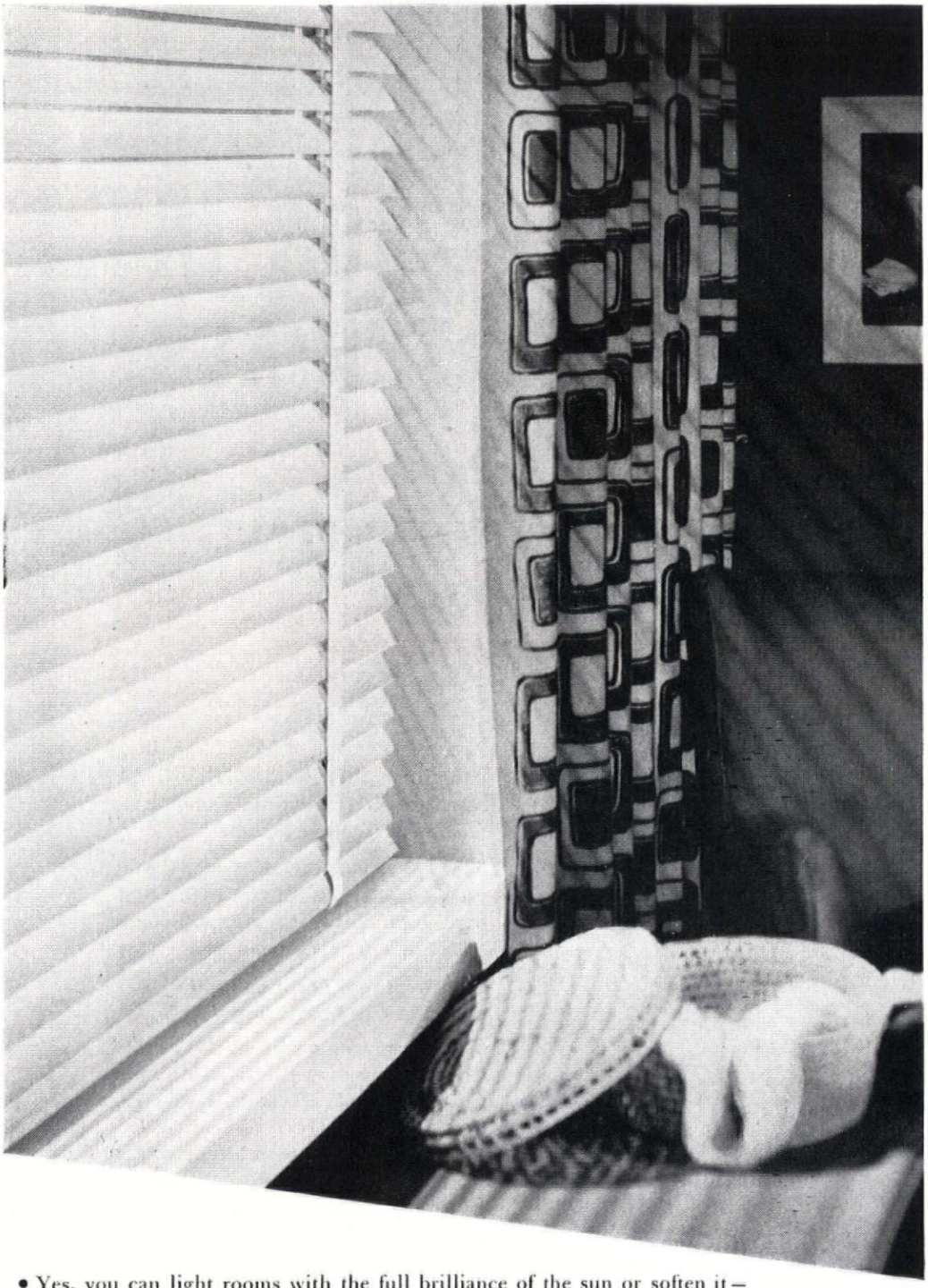


CUSTOM BUILT RADIO-PHONOGRAPH COMBINATIONS boast the finest possible performance.

The four new Berkshire models, the first in RCA Victor's new "Festival Series" of custom-built radio-phonographs, incorporate the finest possible technical equipment. Carefully selected for superior performance regardless of cost, this equipment consists of an automatic phonograph, a radio receiver, and, in certain models, a large-screen television receiver. The radio features superb reception on all services, AM, FM and short wave, and complete flexibility as regards sensitivity, selectivity and the most pecise tonal shadings. The FM and AM tuning systems are completely separate. Each, in addition to the usual manual control, is equipped with 10 push button selectors. Both speaker and amplifier are designed to provide the full frequency range of 30 to 15,000 cycles. The amplifier has an undistorted output between 35 and 40 watts, full output between 50 and 60 watts. A new RCA Duo-Cone Direct Radiator Loudspeaker, a 15 in. unit incorporating a small cone for high frequency coverage within a larger cone for low-frequency coverage, insures low distortion, provides superior distribution of high frequencies. In the phonograph system a new pick-up is claimed to offer the highest fidelity available for home reproduction. The record changer operates with smoothness and reliability, will play 10 in. and 12 in. records intermixed. An RCA Noise Suppressor reduces surface noise or needle scratch. The new line of luxurious instruments comprise regency, modern and contemporary designs. range in price from $1,800 to $4,000. *Manufacturer:* RCA Victor Div., Radio Corp. of America, Camden, N. J.

WALL TYPE DRINKING FOUNTAIN cools water at fountain, eliminates line losses found in circulating systems.

Tal-Co's new wall-type drinking fountain, Model 122, incorporates a Temprite Cooler built into the porcelain fixture. The angle stream drinking jet and mouth guard comply with all sanitary codes and a stream-height control valve automatically regulates the drinking stream height. In the Tal-Co Multiple Outlet Water Cooling System, the individual cooler chills the water instantaneously at each fountain as it is used. Thus costly installation and maintenance of heavy insulated water circulating lines, pump and *(Continued on page 170)*



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• Yes, you can light rooms with the full brilliance of the sun or soften it—even at midday—to lovely light and subtle shadow with Flexalum Venetian Blinds. At night, you can shut the world away, for custom fitted Flexalum closes perfectly. Only one-third the weight of ordinary Venetian Blinds, Flexalum will not lose its shape. The easy-to-clean satin-smooth finish is "Duratized"—permanently sealed to the special-formula aluminum base. Even washing cannot dim its luster. Flexalum Venetian Blinds cannot peel, chip or rust. Now in many exciting new decorator colors...ask your Venetian Blind supplier to show them to you today.

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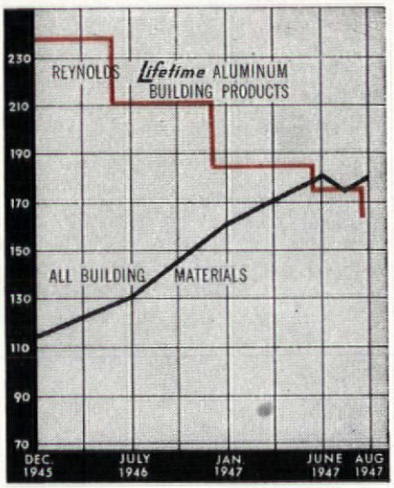
. . . REYNOLDS *Lifetime* ALUMINUM CLAPBOARD SIDING, SHINGLES, "SNAP-SEAL" AND CEILING PANELS REDUCED

Increasing demand supports more efficient Manufacturing Facilities—brings prices below competitive average

The one obstacle that has kept some builders and architects from turning to long-lasting, low-maintenance, readily available aluminum has been price. *That obstacle is now removed.* Starting with aluminum itself at a base price 30% below pre-war, Reynolds mass fabrication has made possible successive price reductions that bring these aluminum building materials below the Bureau of Labor Statistics overall average!

Important Advantages Available at No More or Even Less Cost

That means the home-owner or plant operator need pay no premium for building material that is fire-proof, rust-proof, defies rot and termites, lasts indefinitely. In fact, with aluminum's easy application and because it needs no painting the installed cost may come to considerably *less* than comparable materials. The buyer gets



a free bonus of highly effective insulation, too . . . because aluminum reflects up to 95% of all radiant heat.

Byrne Organization and N.K.Winston among Big Builders Using Reynolds Lifetime Aluminum

In Byrne's big Harundale (Md.) development of 1100 site-fabricated homes, Reynolds Lifetime Aluminum Clapboard Siding is now being used consistently. This siding lends itself particularly to shop assembly of entire wall sections. Reynolds Lifetime Aluminum Shingles have likewise been applied on entire shop-built roofs of Harundale houses.

N. K. Winston, President of Westchester's 2100-acre Continental Village, New York, is also adopting Reynolds Lifetime Aluminum.

Industrial and Farm as well as Home Use Increasing

The advantages of Reynolds Sheet Roofing and Siding—Corrugated, 5-V Crimp, "Snap-Seal" and Weatherboard—have long been recognized in industrial and farm construction. But the 8" Clapboard Siding has also been increasingly successful in these fields. And now, with this present price reduction, many a plant designer and farmer can afford this finer residential type of siding on his walls.

The sales trend is to aluminum...get in with the trend. See Sweets or write for detailed A.I.A. brochure on Reynolds Lifetime Aluminum Building Products. Reynolds Metals Company, Building Products Division, Louisville 1, Ky.

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BARRY COLLEGE FOR WOMEN, MIAMI, FLORIDA

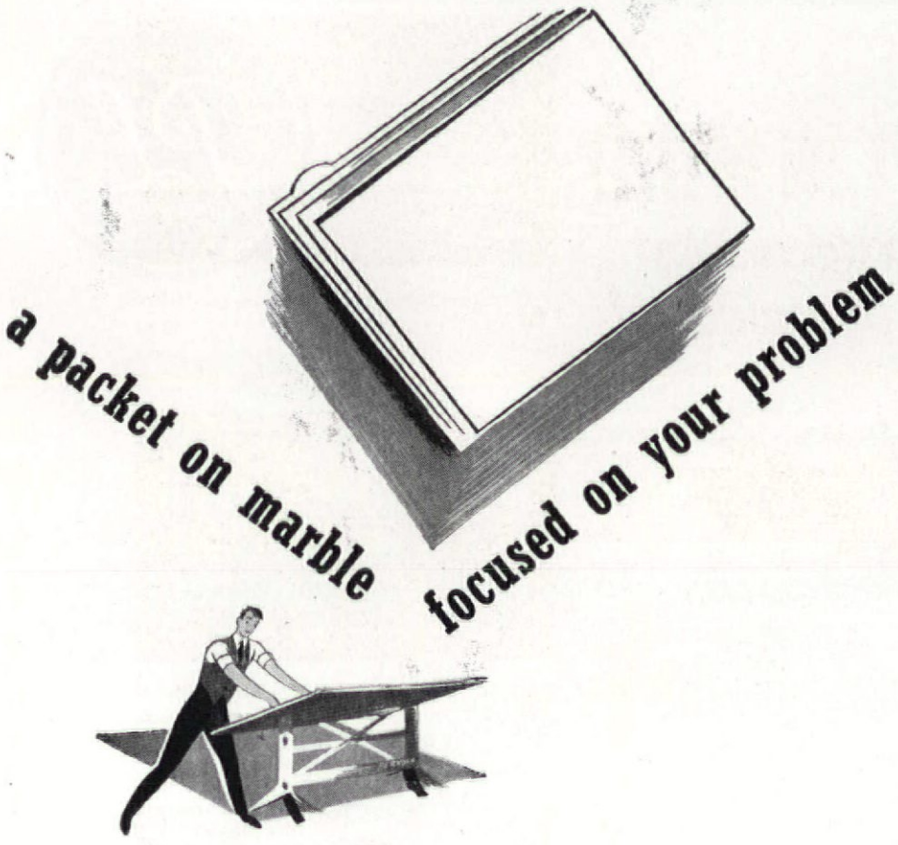
BARRY & KAY, Architects, Chicago; JAMES BRENNAN COMPANY, General Contractor, Miami
FRED CASE, Painting Contractor, Miami

LOCATED on an eighty-acre campus in Miami Shores, Florida, Barry College for Women is conducted by the Sisters of St. Dominic of Adrian, Michigan. Opened in 1940, it is Florida's first Catholic college for women. The finest traditions of the Dominican Order, engaged in educational work for over seven hundred years, have been incorporated in its educational system. The various buildings, like the dormitory shown above, are two-story, stucco construction, tile roof, Spanish architecture and cover considerable area of the spacious, tree-dotted campus. Recreational facilities include swimming pools, tennis courts and other physical training features.

In keeping with the dignified, conservative spirit of the College, the decoration is pleasingly restrained. Pratt & Lambert Paint and Varnish contribute to this atmosphere and adequately protect the surfaces so decorated and assure low maintenance costs.

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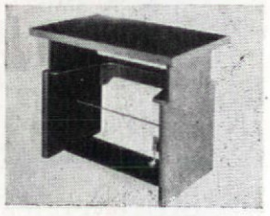
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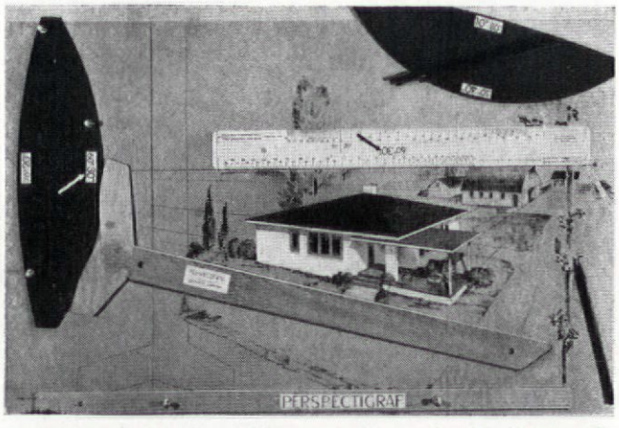
motor necessary in circulating systems, are eliminated. Temprite Coolers with their respective Tal-Co fountains can be located as desired and all can be operated from a conveniently placed condensing unit. Model 122 is made of white porcelain on cast iron, has hardware and drain trap finished in chrome-plate. Installation is said to be simple.
Manufacturer: Tal-Co Manufacturing Co., 510 N. Dearborn St., Chicago, Ill.

PLYWOOD WORK TABLE designed for efficiency and comfort. Work-Flow is a new adjustable work table for use in offices, factory production and assembly lines and home workshops. Patented and engineered to conform to the basic principles of motion economy, it is said to save time, effort and motion. It is also designed for maximum working comfort. With a flexible range of working heights extending from 26½ in. minimum to 37 in. maximum height, it enables the worker to work at any level with comfort whether standing or sitting. Table



can be instantly adjusted by a crank on the right hand side. will hold a working load up to 300 lbs. According to engineer's tests, Work-Flow eliminates fatigue and strain, thereby increases production by as much as 10 per cent. Constructed of heavy-duty plywood with steel gears, it is mounted on gliders for easy mobility. Top is made of Tempered Masonite. is 48 in. long by 30 in. wide.
Manufacturer: Haskell Manufacturing Co., 207 Penn Ave., Pittsburgh, Pa.

DRAWING DEVICE facilitates perspective drawing. Perspectigraf is a new drawing device for the beginner or expert which is said to be a practical shortcut to drawing perspectives. According to the manufacturer, it saves time and effort, is extremely versatile and simple to use. Perspectigraf comprises a kit of five main components: a Perspectiscale, 2 Vanishing Arcs, Perspectivedge, Basedge and pins for fixing the Vanishing Arc and Basedge to the drawing board. The

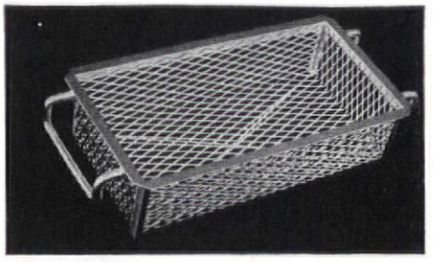


Perspectiscale has four different scales, each with divisions in regularly diminishing perspective values. The Vanishing Arcs or guides have a total of 4 arcuate edges which complement the 4 scales. Perspectivedge is a straightedge which has an especially patterned head that guides upon the Vanishing Arc edge. Basedge acts as a guide for the Perspectivedge. Each Perspectigraf kit includes a complete set of instructions.
Manufacturer: Letterite Co., Fort Washington, Pa.

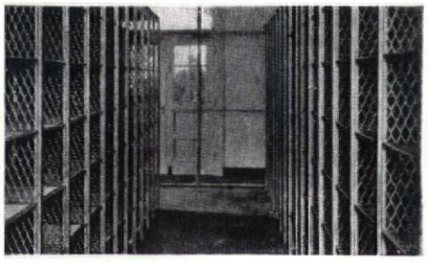
(Technical Literature on page 176)

KEEP IT IN MIND
–it helps solve lots of problems!

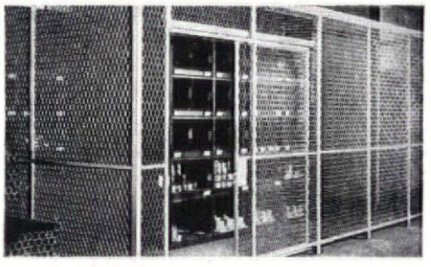




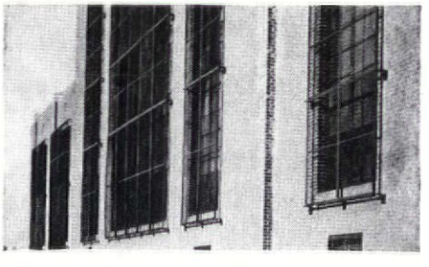
★ Use Wheeling ExM for baskets, grilles, window wickets, ventilators. Light, strong, easily formed.



★ Shelving, lockers, racks and bins of Wheeling ExM provide free air circulation, with cleanliness, security and sanitation.



★ Wheeling ExM partitions and enclosures provide greater security yet admit light and air. Many standard fittings simplify design and construction.



★ Window guards of Wheeling ExM effectively prevent glass breakage and intrusion. Heavier gauges make excellent non-slip stair treads, catwalks, etc.

WHEELING EXPANDED METAL gives you a multitude of advantages in a single type of material. Stronger than sheet steel of the same weight, it permits vision and ventilation yet is an effective barrier against intrusion. Its interesting "diamond" pattern appeals to the eye. It is easily formed and fitted . . . always results in a clean-looking, workmanlike job. Many sizes and weights and finishes available. It will pay you to know more about it. Write us for details.

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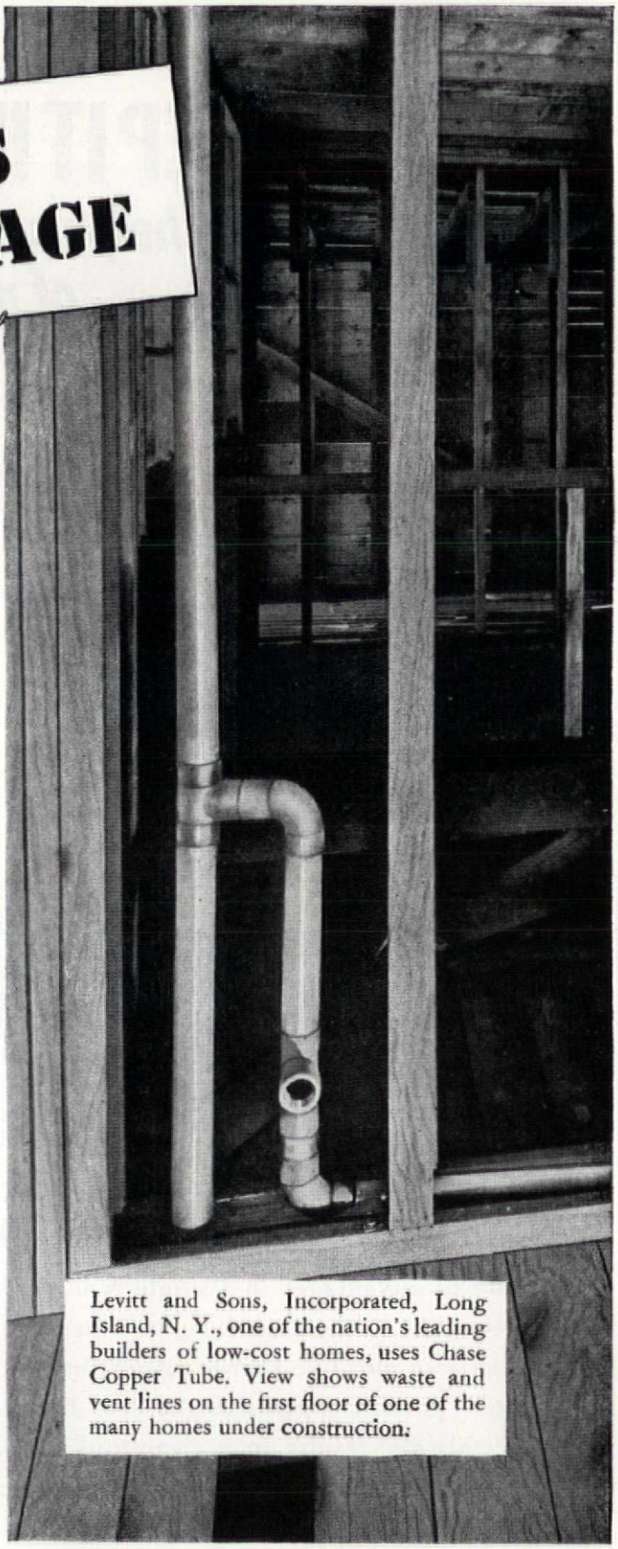
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THERE'S NO SHORTAGE



OF WASTE AND VENT LINES MADE OF CHASE COPPER TUBE



Levitt and Sons, Incorporated, Long Island, N. Y., one of the nation's leading builders of low-cost homes, uses Chase Copper Tube. View shows waste and vent lines on the first floor of one of the many homes under construction.

NOT only can you *obtain* Chase Copper Tube readily . . . but also at virtually *no extra cost* in the long run! You *save* on *installation costs*. Here's why:

Copper tube is available in *20 foot continuous lengths* . . . eliminating numerous extra connections.

It is easily cut to accurate lengths in contrast to the difficulty in cutting other materials used for this work.

Solder-joint drainage fittings are available in all of the necessary varieties of types and sizes required for copper tube drainage systems.

Remember, too, copper tube has a very smooth interior surface and is a superior material for drainage systems. Send for literature; write Dept. AF 107.

Chase *the Nation's Headquarters for* **BRASS & COPPER**

WATERBURY 91, CONNECTICUT — SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK . . . *handiest way to buy brass*

ALBANY† ATLANTA† BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON† INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER† SAN FRANCISCO SEATTLE ST. LOUIS WASHINGTON† (†Indicates Sales Office Only)

Time and Money Savings of STANDARDIZATION



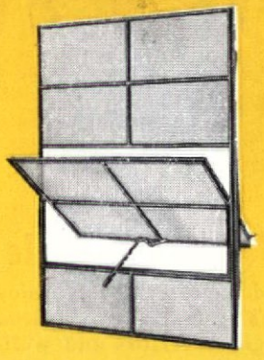
. . . but no shackles on individuality!

There's a certain distance to go with standardization—far enough to permit manufacturing economies that mean lower first cost—far enough to co-ordinate product dimensions with those commonly used in modern construction practices.

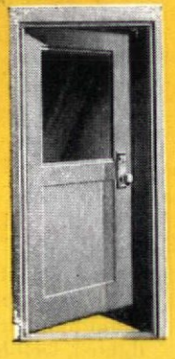
That has been our policy. A look at a Fenestra catalog on windows, doors or panels will convince you that these economies of standardization have been achieved without hampering design individuality. There is so much to choose from—and it is rolling off our production lines at record pace. The three products shown here are each merely representative of a wide range of types and sizes.

Each Fenestra Building Product is designed to keep on-the-site work at a minimum. We think it is one way to keep construction costs down.

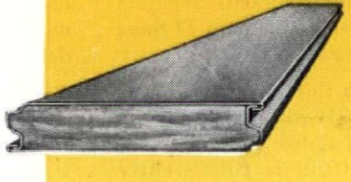
Look them over in Sweet's (Sections 16a-9 and 3c-1). Better yet, write or call us.



STEEL WINDOWS—Available in a wide range of types including Pivoted, Commercial Projected, Fencraft Casement, Projected and Combination, Residence Casements, etc.—providing windows that are right in size, appearance and operation for factories, offices, apartments, homes, hotels . . . in fact, buildings of every type.



STEEL DOORS—Standardized to save you time and money. They come complete with hardware, many with frames—reducing fitting time to a minimum. Available in swing and slide types, in single and double widths. Also turnover and vertical lift doors. Rugged construction assures continued easy operation.



METAL PANELS—For lightweight, fire-resistant floors, walls, roofs, ceilings and partitions. Variety of types, weights and sizes makes them extremely versatile—suitable for use in many types of buildings. They fit together in jig time, providing a flat surface ready for paint, plaster, linoleum, plywood or other material of your choice. Cellular types provide space for insulation or raceways for wires, pipes or other service facilities.

Fenestra **BUILDING PRODUCTS**

Detroit Steel Products Company, Dept. AF-10
2251 East Grand Blvd., Detroit 11, Michigan

A nine mile "Blood Stream"

WARMS THE HEART OF ATLANTA

...and helps her preserve her complexion!



Central Heating Made it Possible!

Thousands of people in downtown Atlanta enjoy the benefits of the district's central heating system. Buildings with clean, bright exteriors and well-lighted, well-heated interiors do a great deal to make their standard of living comfortable and pleasant. Few of them, however, are aware that below the ground is a veritable "blood stream"—48,486 feet of pipe mains distributing steam throughout the area from three boiler plants.

Among the 465 customers of the Georgia Power Company's steam distribution system are two United States Post Offices, the State Capitol, City Hall, Municipal Auditorium and other municipal buildings, as well as three housing projects. Commercial customers include 20 out of 26 office buildings, 6 out of 7 leading hotels, and practically all of the department stores and other retail establishments. Separate boiler plants previously maintained by many of these users have now been abandoned.

Central heating is not new to this progressive city. Operations were started in 1901, with about 50 customers, and have steadily expanded to the present impressive status. The operation is consistently profitable even though Atlanta's record of 2,865 normal degree days is only approximately 55% of the number for a representative northern city like Pittsburgh. Since 1924 the Georgia Power Company has purchased all excess steam generated by the City's incinerator plant. This amounts to approximately 30% of the system's total annual requirements, and about 80% of its needs during the summer months.

The system offers many advantages to the numerous private and public buildings and the housing projects which it serves—gives them maximum functional use of their space, eliminates all the problems connected with individual boiler plant operation, fuel deliveries and ash disposal.

To assure high thermal efficiency and dependable, trouble-free operation, as well as ease and speed of installations, Atlanta's steam system includes a considerable footage of Ric-wiL prefabricated insulated pipe units.

Want help on Central Heating problems? Ric-wiL case histories, project studies, other helpful literature available upon request.

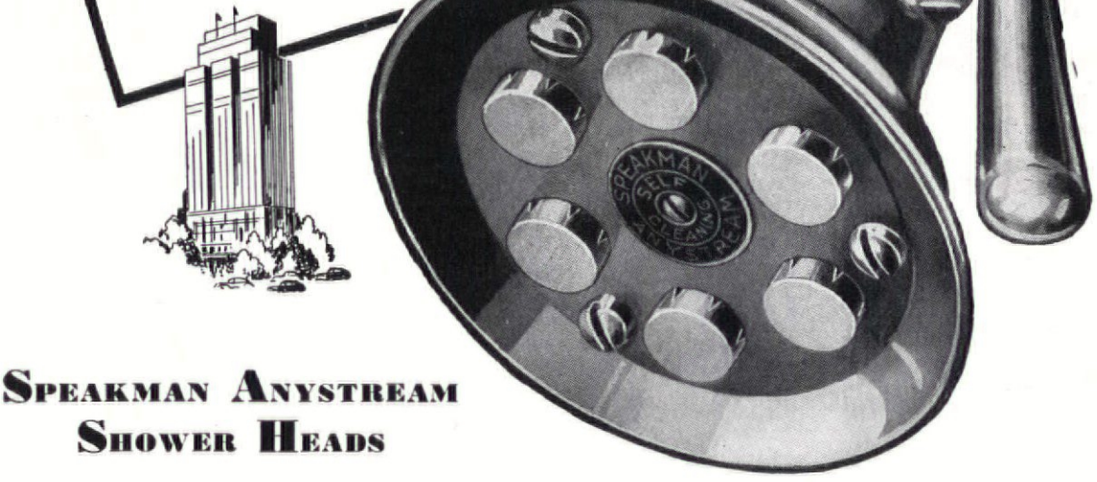
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When a job calls for showers . . . specify Speakman Anystream Shower Heads . . . the shower head chosen by leading hotels, clubs, institutions and by home owners all over the country. Anystream saves up to 58% on hot water consumption . . . cuts water and fuel bills. And, since Anystream is self-cleaning . . . the usual cause of shower maintenance is completely eliminated. Write for full information.

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SPEAKMAN COMPANY, WILMINGTON 99, DELAWARE

A turn of the lever gives ***Needle Spray for Stimulation.***



or ***Regulay Spray*** for ***Relaxation.***



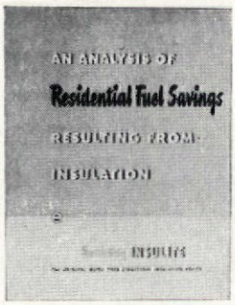
or ***Flood Spray*** for ***No-Splash Rinse.***



Never This! The Anystream is self-cleaning.



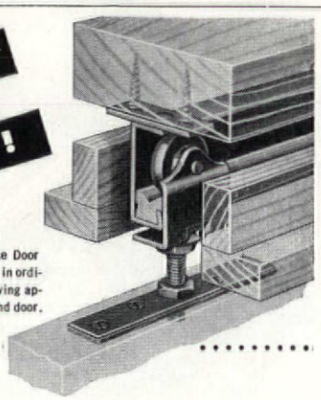
TECHNICAL LITERATURE



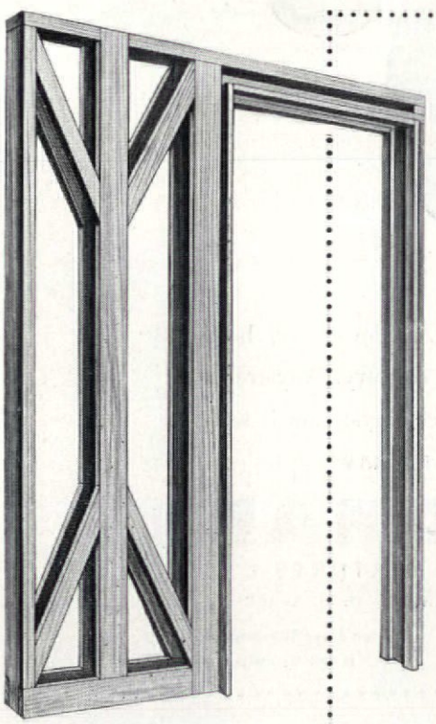
INSULATION. An Analysis of Residential Fuel Savings Resulting From Insulation. Insulite Division, Minnesota and Ontario Paper Co., 500 Baker Arcade Bldg., Minneapolis 2, Minn. 24 pp. 8½ in. x 11 in.

Written especially for architects, this booklet gives a simple, accurate analysis of the fuel savings gained by the use of varying amounts and different types of insulation in residential construction. Easy-to-use tables permit one to estimate the costs of employing various combinations of insulation and to determine the most economical amount of insulation required to result in the minimum cost of fuel and insulation. Charts can be used to determine savings for one and two story houses with various degrees of insulation in the walls and ceiling. Tables and charts together illustrate: percentages of fuel savings for one and two story houses; fuel requirements for one and two story houses with Insulite Approved Wall of Protection and ½ in. Sealed Lok-Joint Lath on the ceiling and various thicknesses of wall insulation expressed as percentages of the requirements of uninsulated structures of comparable size; applied costs of various materials per 1,000 sq. ft., typical problem of determining combined average annual cost for fuel and insulation and the economic thickness of insulation.

More USABLE floor space at LESS COST!



Richards-Wilcox No. 719 Vanishing House Door Hanger and wood lined track installation in ordinary 2 x 4 studded house partition, showing application of hanger and track to header and door.



(Above) Mill construction of R-W designed "Ordinary Wall" pocket for installing vanishing house doors operating on R-W No. 719 house door hangers in ordinary 2 x 4 studded partition. This construction, developed by Richards-Wilcox engineering department, solves the problem of builders and architects who desire to get the advantages of "Richards-Wilcox" Vanishing House Doors without increasing the width of the ordinary 2 x 4 studded partitions.

with R-W Residential Vanishing Door Hangers

For doors 7/8" thick and up!

Present-day home building costs require maximum use of *all* available floor space. That is why Richards-Wilcox Vanishing (sliding) House Doors are now more popular than ever. Floor space "wasted" due to the swinging arc of hinged doors can be fully utilized with vanishing doors . . . furniture, pictures, lighting fixtures can be located conveniently and correctly.

Designed for use in 2" x 4" Studded Walls!

And with R-W Vanishing House Doors there is no extra construction cost! The R-W "Ordinary Wall" pocket permits installation of vanishing doors in standard 2" x 4" studded partitions. Get complete details from your nearest Richards-Wilcox office—free consultation available without obligation.

1880 RICHARDS WILCOX R-W AURORA 1947

OVER 67 YEARS

Richards-Wilcox Mfg. Co.
"A HANGER FOR ANY DOOR THAT SLIDES"
AURORA, ILLINOIS, U.S.A.

INSULATION. Holding Low Temperatures With Better Insulation. Industrial Mineral Wool Institute, 441 Lexington Ave., New York. 24 pp. 8½ in. x 11 in.

Containing valuable data on low-temperature insulation with mineral wool, this manual is of special interest to those concerned with cold storage work, freezing processes, cold aging, food distribution, industrial refrigeration and air conditioning. Beginning with a discussion of how to select low-temperature insulation, the available forms of mineral wool, its properties and application methods, following sections are devoted to analyses of typical case-history installations. A technical chapter gives data on the principles and significance of vapor-proofing for various types of wall, floor and ceiling construction. The work is fully illustrated with photographs, diagrams, charts and tables, includes: graphs on representative thermal conductivities of various mineral wool forms; a chart for computation of minimum insulation thicknesses to prevent condensation on cold surfaces in various environments; minimum thicknesses and recommended techniques for pipe insulation; data on long-term storage temperatures for various food products and recommended procedures for the vapor sealing of masonry, wood, block and plastered walls.

VERMICULITE. The Contribution of Vermiculite to Fire Protective Construction. Universal Zonolite Insulation Co., 135 South La Salle St., Chicago, Ill. 2 pp. 8½ in. x 11 in.

The Contribution of Vermiculite to Fire Protective Construction is an up-to-date summary of fire tests on construction incorporating vermiculite products. Included are descriptions of recently conducted tests on vermiculite plaster used to fireproof steel beams and columns.

CONCRETE BUILDING UNITS. Besser Modular Standard Building Units. Besser Manufacturing Co., Alpena, Mich. 24 pp. 8½ in. x 11¼ in. Price $2.00.

This catalog illustrates various modular dimensioned concrete building blocks, bricks and tiles now available from Besser equipped plants. It presents 50 Modular Standard Units and many additional and useful units such as Bull Nose Blocks, Beam Lintel Blocks, Chimney Blocks, Floor Filler units, etc. Uses of the blocks are also illustrated and their advantages described. The last few pages feature the Besser Super Vibrapac and Batch Mixer and a Besser equipped plant.

LOG STRUCTURES. Log Structures, Inc., 344 Colorado Blvd., Glendale, Calif. 24 pp. 11¼ in. x 8½ in.

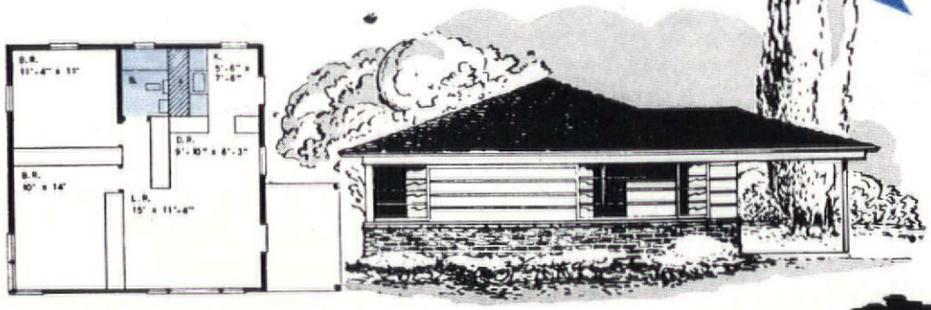
Log Structures illustrates and describes a simple type of log construction for homes, cottages, cabins, garages, restaurants, etc. The system utilizes precision-cut, grooved logs tied together with wooden splines and reinforced by vertical panel logs inset on the outside of the building on a maximum of 8 ft. on centers. Construction details, wall sections, elevations, etc. help explain the system. Many photographs of finished homes illustrate typical examples of its application.

LIGHTING. Tulox Fluorescent Diffusers. Extruded Plastics, Inc., New Canaan Ave., Norwalk, Conn. 4 pp. 8½ in. x 11 in.

Tulox Fluorescent Diffusers, one-piece tubular transparent plastic sections scientifically *(Continued on page 180)*

The INGERSOLL UTILITY UNIT is Adaptable

One Package . . . One Purchase . . . One Installation!



TO SMALL HOMES PLANS

Space saving is important. Delays in waiting for purchases from several sources mean lost time and added expense. The Ingersoll Utility Unit eliminates these unnecessary delays and saves from three to four weeks in construction time.

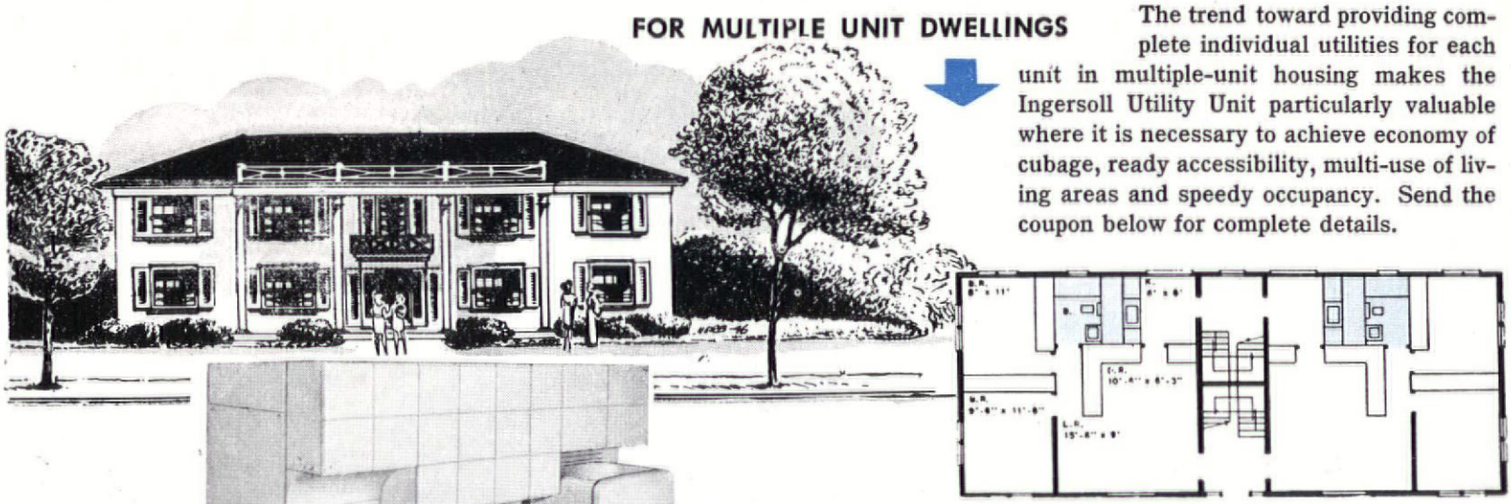
IN MEDIUM PRICED HOMES

The Ingersoll Utility Unit allows you flexibility in floor plans, saves you writing pages of specifications. Prompt delivery assures you that everything for kitchen, bath and heating plant will be on hand when you want it . . . and all in one unit.



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The trend toward providing complete individual utilities for each unit in multiple-unit housing makes the Ingersoll Utility Unit particularly valuable where it is necessary to achieve economy of cubage, ready accessibility, multi-use of living areas and speedy occupancy. Send the coupon below for complete details.





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Borg-Warner Corp., Dept. F-10,
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Please send me illustrated booklet with floor plans showing how the Ingersoll Utility Unit is adaptable to our plans.

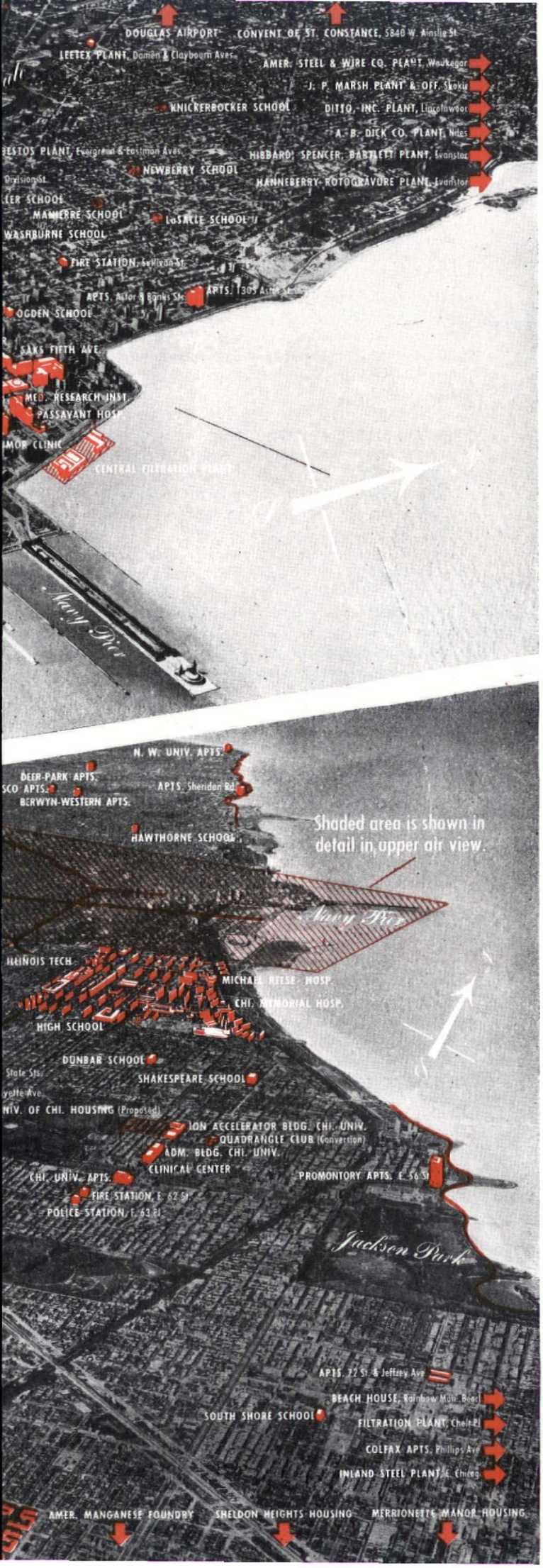
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This advertisement also appears in *TIME* (circ. 1,586,015) and in *FORTUNE* (circ. 251,383)

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Before long you won't need this air view to lead you to new building in Greater Chicago. Just follow your ears.

The sound of building is a fine sound to hear throughout the land. It means employment, it means investment and it means better living and working conditions for all. The sound of building is a sound Americans have scarcely heard for twenty years, but soon you will recognize it everywhere—in the cities, in the towns and villages, on the farms.

Whole new communities are taking form on paper as you read these words. The architects and engineers, the bankers, the suppliers, the contractors, the public officials and the investors, all who dominate U.S. building are making great plans right now.

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As our greatest building decade opens, the FORUM is stronger than ever, its readers more important and numerous—over 60,000 men who make Building's major decisions. Just as reading the FORUM is a tradition among those who dominate Building, so advertising in the FORUM is a tradition among those who make Building's quality products—year after year they make their greatest advertising investment in this magazine.



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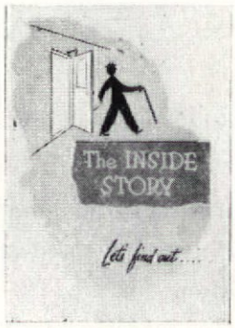
Building product manufacturers and their advertising agencies are invited to send for a new booklet "SOMETHING HAPPENS."

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To those regularly engaged in any branch of building—design, construction, financing, distribution, ownership or management—the FORUM *(published monthly) is available at the professional rate of $5.50 (U.S. and Canada). Letterhead or other proof of occupation must accompany orders. Subscription to nonprofessionals, $8.50 (U.S. and Canada). Foreign rates on application.*

Address: THE ARCHITECTURAL FORUM, *540 North Michigan Avenue, Chicago, Ill.*

TECHNICAL LITERATURE



designed to diffuse light and reduce glare, are described in this folder. Advantages, uses, colors and installation are discussed, available sizes and prices are listed.

DOOR CLOSER. The Inside Story. The Yale and Towne Mfg. Co., Stamford, Conn. 42 pp. 5½ in. x 8½ in.

In this booklet clever diagrammatic drawings fully describe the mechanism and operation of Yale & Towne's new Compact Door Closer. Beginning with an illustration of an empty closer cylinder, drawings show the various component parts of the unit and their position in the closer. Animated diagrammatic drawings indicate the mechanical function that takes place inside the closer when it is in operation. The last few pages of the booklet include cross section photographs of the closer and a resume of its many features.

From the cradle to the grave...



HERMAN NELSON PRODUCTS SERVE MILLIONS IN AMERICA



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COMFORTABLE and healthy air conditions are maintained for customers and employees alike in thousands of offices and stores across the country, through the use of Herman Nelson Heating and Ventilating Products.

Because the average man spends about eighty per cent of his entire lifetime indoors, it is important that all buildings in which he goes to school, works and plays be properly heated and ventilated.

For over 40 years, The Herman Nelson Corporation has been building quality heating and ventilating equipment for public, industrial and commercial buildings. Leading Architects, Engineers and Contractors, as well as Owners, know that the use of Herman Nelson Products will assure maintenance of desired air conditions.

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THE HERMAN NELSON CORPORATION

Since 1906 Manufacturers of Quality Heating & Ventilating Products

MOLINE, ILLINOIS

PLUMBING. Zurn Building, Plumbing, Drainage Products. Service Catalog No. 47-1. J. A. Zurn Mfg. Co., Plumbing Div., Erie, Pa. 76 pp. 8¾ in. x 11 in.

A combination price guide and catalog for quick and easy specification reference, this booklet presents Zurn's line of building, plumbing and drainage products. The more important of these products include: drains, interceptors, traps, wall fixture carriers, wall closet fittings, hydrants and street washers and swimming pool equipment. Every item is fully illustrated with photographs and engineering drawings. Complete tables of sizes, weights, dimensions and prices are contained for each.

PREFABRICATED CONSTRUCTION. Custom Construction Through Mass Production. Homograf Corp., 11711 East Eight Mile Road, East Detroit, Mich. 18 pp. 8½ in. x 11 in.

This is an outline of the Homograf Corporation's program for licensing lumber dealers to produce customized, low-cost homes, garages and other utility units by using their completely engineered and adjustable jigs. The Homograf System, a simple, practical fabrication method, is intended to meet the trend by combining the advantages of conventional-custom construction with the advantages of mass production. The outline sketches the company's plan for leasing the jigs, describes what parts of the structure are prefabricated at the lumber yard, recites the advantages to the lumber dealer as a Homograf licensee.

DRAFTING INSTRUMENT. A Short Cut To Perspectives. What The Sensational New Pomeroy Stereograph Will Do For You. Pomeroy Stereograph Co., Inc., Ferguson Bldg., Cleveland, Ohio. 8 pp. 18 pp. 8½ x 11 in.

These two pieces of literature describe advantages and operation of the Pomeroy Stereograph Perspective Drawing Instrument, a tool which is said to draw accurate perspectives in approximately half the time required by other methods. Description of operation shows how it produces perspectives to hair-line accuracy without vanishing points, grids, outriggings or accessories. A large size illustration of the instrument explains steps by which a completly rendered bird's-eye view of a factory in perspective is made from standard plan and elevation drawings. Perspectives of machine assemblies, architectural renderings, etc., demonstrate ease with which machine draws horizontal and vertical elipses, contours and straight line projections.

REQUESTS FOR INFORMATION

CHING CHECH CHENG, architect-engineer, Ch'eng Ch'eng Co., 1 Ninghai Road, Nanking, China, engaged in designing several government projects, hospitals, offices, etc., desires catalogs, design data, specifications and other information on building methods and materials. Samples of materials are also requested.

HERMAN H. FRIEDMAN, Church Service Co., 2757 Greenwich St., San Francisco, Calif., requests literature related to building maintenance, painting, weatherproofing, cabinet and furniture finishing.

FRANK W. GRIFFITH, architect, M-29 Warden Bldg., Ft. Dodge, Iowa, desires catalogs and price information on church equipment, especially pews, altars, windows and lighting fixtures.

BRUCE E. ORCHISTON, architect, 115 Lambton Quay, Wellington C.1. New Zealand, desires information on the layout of industrial plants and building products suitable for export to New Zealand.

G. H. RUTHERFORD, architectural engineering student, 1825 E. 72nd St., Chicago, Ill. desires literature pertaining to all phases of residential work. *(Continued on page 184)*

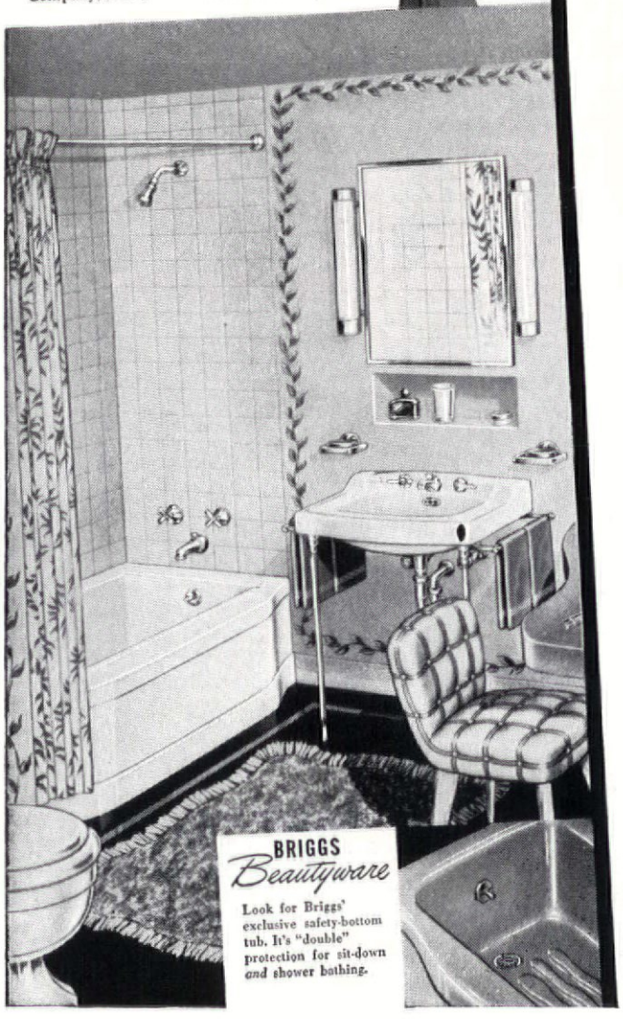
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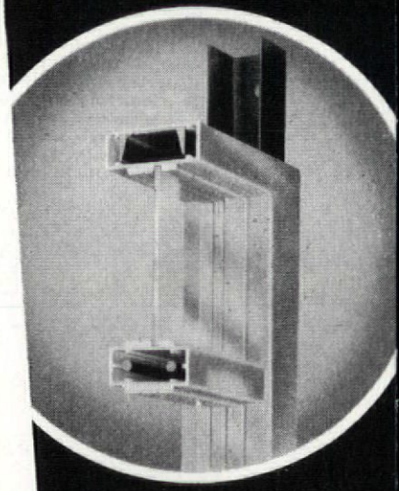
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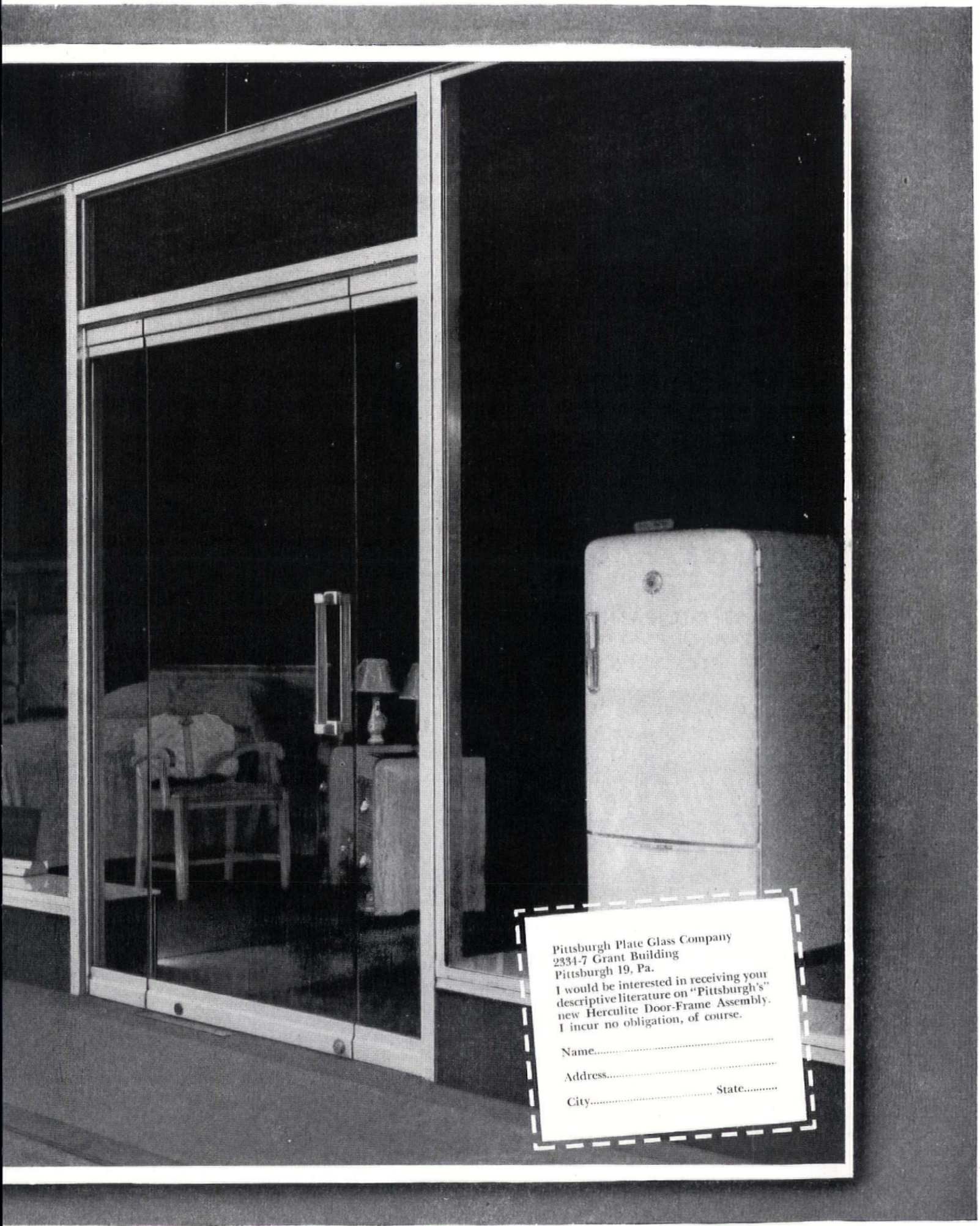
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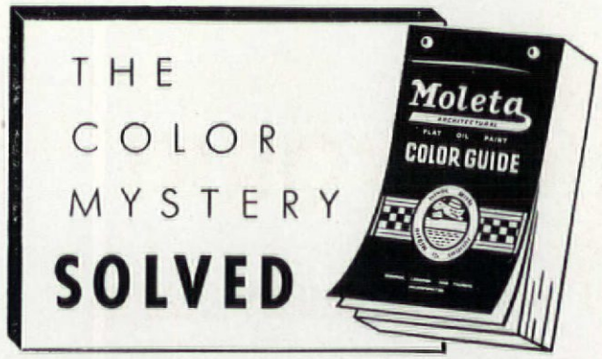
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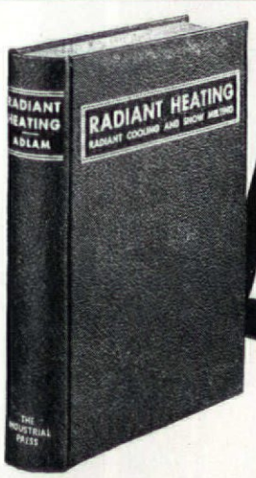
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JOSEPH M. BARROW, architect, 713 West Illinois St., Urbana, Ill.

MARTIN L. BECK, architect, 10 Nassau St., Princeton, N. J.

DONALD CAMPBELL, architect, P.O. Box 991, La Jolla, Calif.

ALBERT CRIZ, architect, 556 South Harvard Blvd., Los Angeles 5, Calif.

P. H. FULLER, St. Helens, Royal Esplanade, Margate, Kent, England

HARRY W. GJELSTEEN, architect, 230 Sheridan Road, Menominee, Mich.

ISLAND HOMES, designers and builders, 915 Fort St., Honolulu.

THOMPSON JONES, building construction, 600 North Andrews Ave., Ft. Lauderdale, Fla.

LLOYD B. KNUTSEN, architect, 527 Hoeschler Bldg., La Crosse, Wis.

ANDREW LANDLES, architectural student, 59 Twirlees Terrace, Hawick, Roxburghshire, Scotland.

ING. SALVADOR PADILLA R., 3a Calle Oriente # 28A, San Salvador, El Salvador, Central America.

GORDON STABLES, architectural student, 75 Grafton Road, Keighley, Yorkshire, England.

SUNDBERG-FERAR, industrial designers, 3157 Guardian Building, Detroit, Mich.

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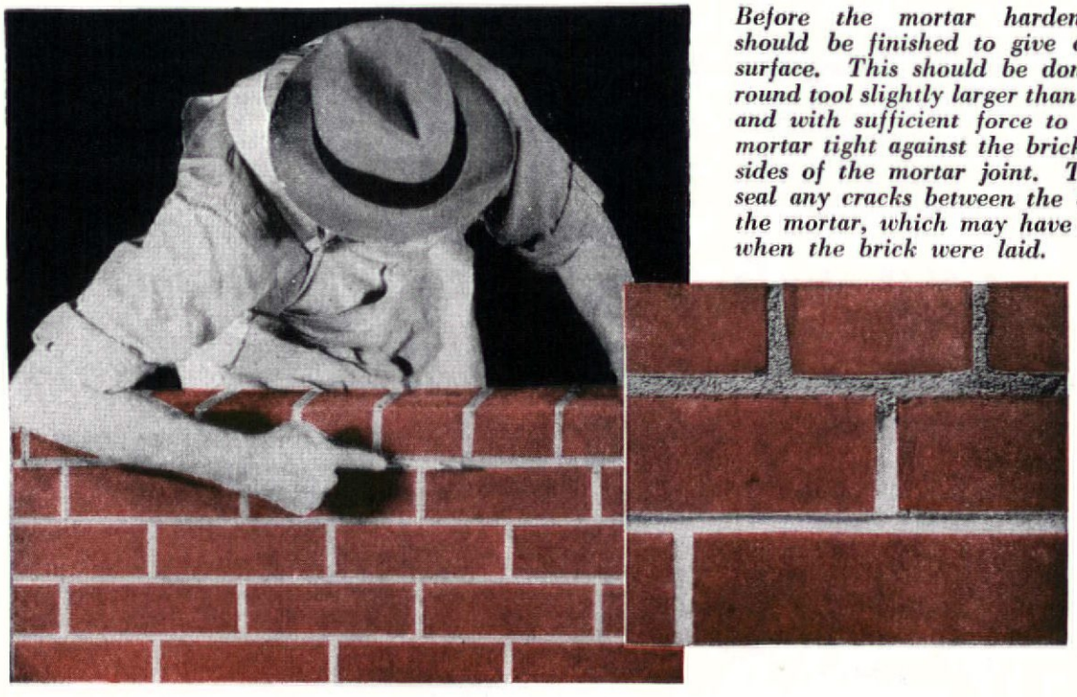
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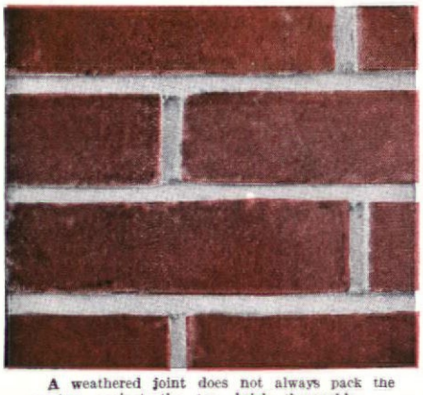
No. 5 OF A SERIES—

THE RIGHT WAY AND THE WRONG WAY—TO FINISH JOINTS

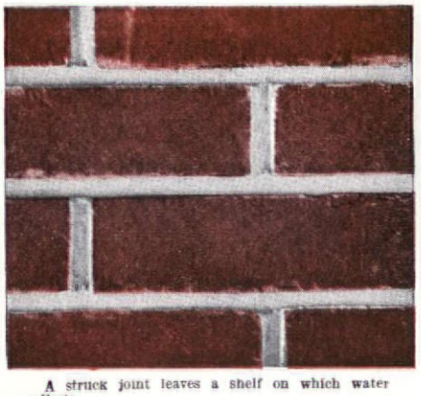


Before the mortar hardens, joints should be finished to give a concave surface. This should be done with a round tool slightly larger than the joint, and with sufficient force to press the mortar tight against the brick on both sides of the mortar joint. This helps seal any cracks between the brick and the mortar, which may have been left when the brick were laid.

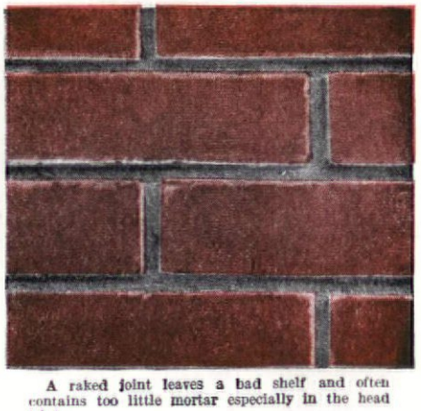
Concave joints should always be used for face brick, unless the architecture requires some other type of finish. No other type of joint provides as much protection against the entrance of water.



A weathered joint does not always pack the mortar against the top brick thoroughly.



A struck joint leaves a shelf on which water collects.

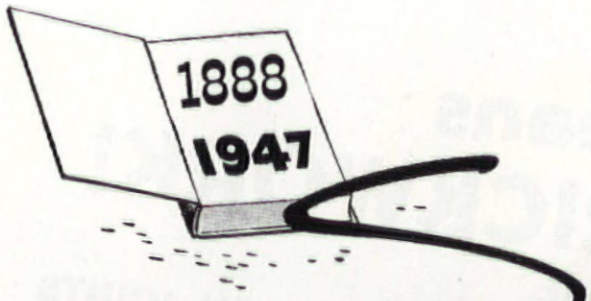


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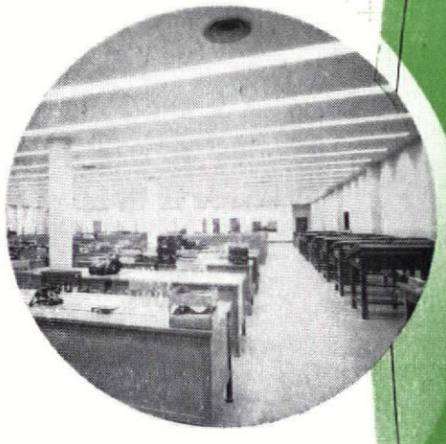
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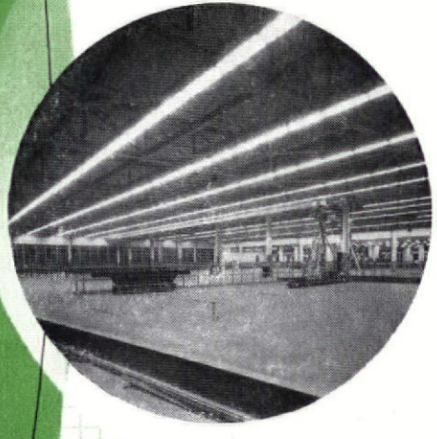
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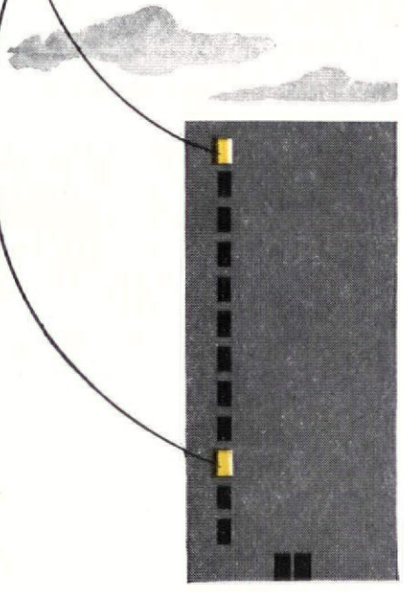
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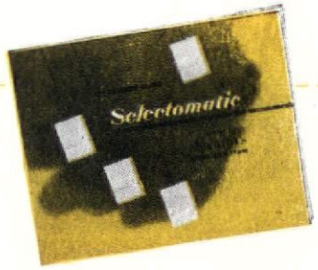
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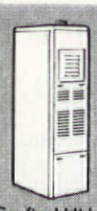
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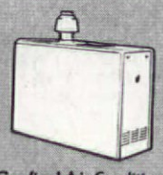
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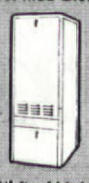
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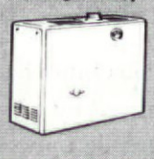
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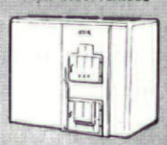

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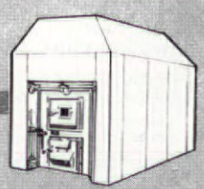

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Yale & Towne Manufacturing Co., The 49, 50, 51, 52
York Corp. 127

Divide by...

3



and if your cost is more than.. 7¢ per lb. for DUCT material..you're paying more than you will for...

REYNOLDS ALUMINUM

• While the average of other metal prices has increased more than 100% since 1939 (and steel prices have just taken another 13% jump), the base price of aluminum has dropped 30%. Now, Reynolds Aluminum Utility Sheet suitable for duct work takes another 10% drop. Today's new low price—$0.214 per pound in carload delivered lots.

Now, divide that price by *three* because lightweight aluminum gives three times the metal area of conventional materials. The answer—if you're paying more than 7¢ per pound for the heavier duct material, you're missing a real chance to make money.

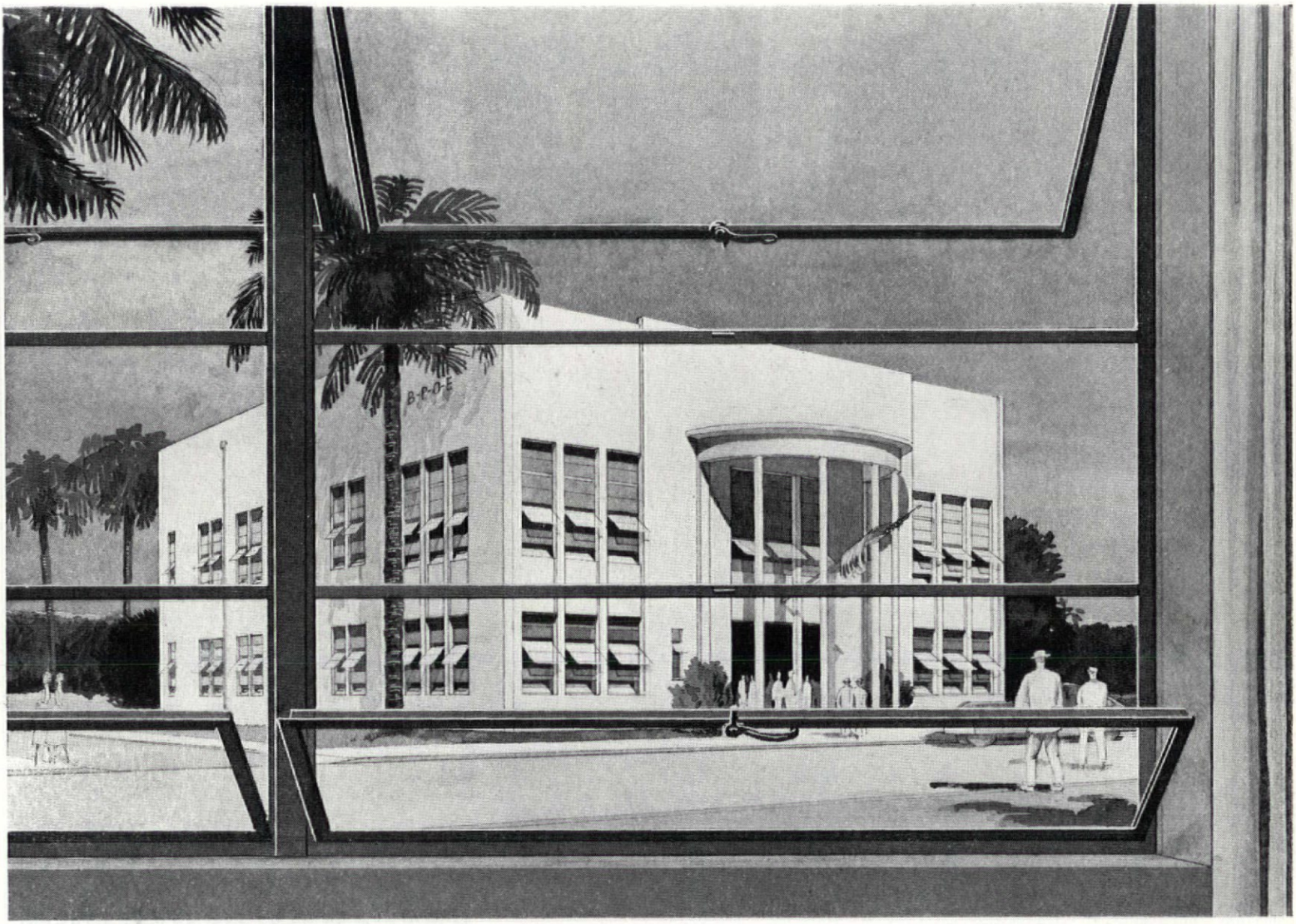
Add to this initial saving aluminum's additional economies made possible by faster fabrication in the shop and easier erection on the job. And the customer gets a better job because aluminum ducts require no painting; operate quieter; are non-rusting and corrosion-resistant.

Premium quality, low price, immediate delivery from jobber stocks—that's Reynolds Aluminum Utility Sheet for duct work. Available in flat and coiled sheets, 32", 36" and 48" widths. For complete information, contact your nearest jobber, Reynolds Sales Office or write direct to Reynolds Metals Company, Aluminum Division, 2528 South Third Street, Louisville, Ky.

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Lifetime REYNOLDS ALUMINUM



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METAL WINDOWS

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attractive in design, quiet in operation



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Eljer's fine line of combinations offer these features: attractive designs, engineered efficiency, quiet operation, integral china tank overflows, ground-in valve seats, glass-like Vitreous China that is easy to clean and keep clean.

For additional information, see your Eljer Distributor or write Eljer Co., General Offices, Ford City, Penna.

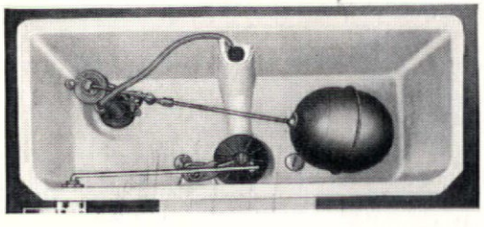


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The integral china overflow and ground-in valve seat eliminate metal parts which are vulnerable to the corrosive action of water. Mechanically, the whole arrangement of these tanks is simplicity itself. Note the illustration at the left.

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